ARCHITECTURE

VOLUME LV FEBRUARY, 1927 NUMBER 2

Gambrel Slopes of Northern New Jersey

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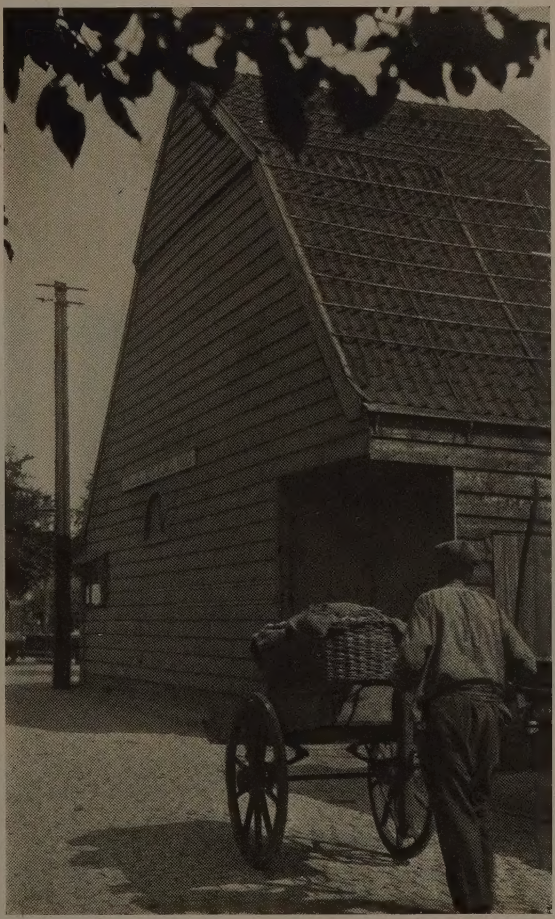
MEASURED DRAWINGS MADE BY PAUL TIMM

THE gambrel roof has been termed "the most significant American contribution to building." This appraisal may not be quite accurate historically, but certainly no single feature of our inherited architecture has received a more ready application by present-day architects of lesser dwellings. As an element of architectural expression, the low gambrel roof, known to the early builders as "the curb roof," was first employed with a view to diminishing the apparent roof height, which might otherwise predominate over that of the walls.[*] The gambrel form of roof derives its appeal from characteristics that are practical and adaptable as well as esthetic. It is a device which makes possible the inclusion of two stories of rooms within what is ostensibly a single-storied house. Fiske Kimball has pointed out that the form originated in the desire to reduce the height of the mediæval roof, especially over buildings of a double file of rooms."[†]

It is unfortunate that some builders and designers—we will not include the architects—have at times misused and distorted the gambrel in an attempt to attain an even greater space beneath the roof. The roof-pitch that we associate with the old Dutch houses is not to be tampered with if the final result is a consideration. It will be the purpose of this paper to point out the regularity of these accepted models which became as uncompromising in their fixed proportions as the shape of a door-opening.



A Gambrel roof in Delft, Holland, showing that the Dutch were familiar with the type at home

The authentic Dutch gambrel, low in slope, broad and sweeping in its lines, is restricted in locality to Northern New Jersey and Eastern New York State. The examples considered should not be confused with the occasional versions that are to be found in New England and Pennsylvania. The examples of the strictly English settlements are unlike the gambrel roofs of the Dutch districts in the respect that the former are pronouncedly steep in their slope, are narrower in plan, and almost invariably surmount high, two-storied walls.

The gambrel, or curb, roof was known to the English abroad during the seventeenth and eighteenth centuries. It had been used to roof the Chapel of the Royal Hospital at Greenwich and again was adopted to span the great hall at Hampton Court.[*] Battey Langley, Isaac Ware, and William Paine illustrate the truss required for the "curb roof" in their builders' handbooks of the seventeenth century. E. Hoppus gives rules to govern its proportions. The English gambrel, illustrated in these works, became the models for the examples that appeared in the parts of Colonial America that were settled by the English. The Peter Tufts House (1677–1680), Medford, Mass.;

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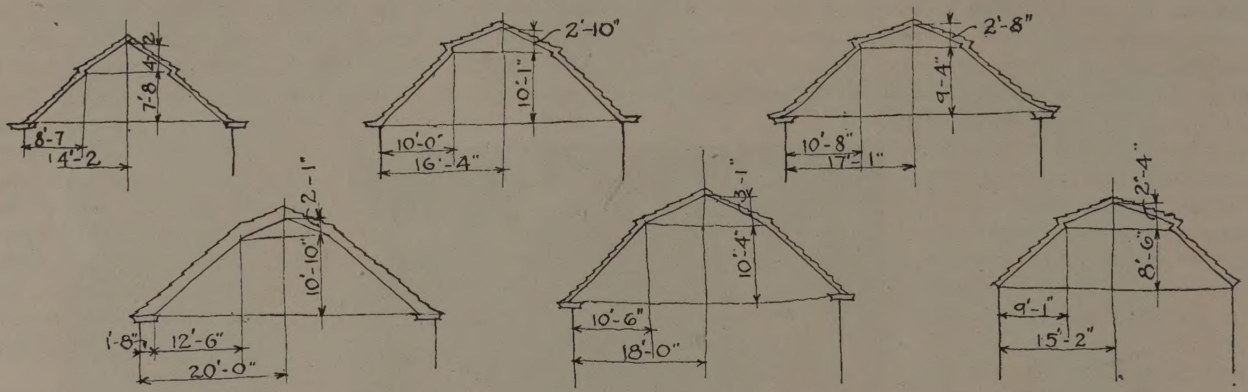
[*] J. Haviland, "Practical Builders' Assistant" (1815), vol. II, p. 195.

[†] Fiske Kimball, "Early American Domestic Architecture," p. 45.

[*] Fiske Kimball, "Early American Domestic Architecture," p. 45.

Graeme Park (1722), Horsham, near Philadelphia; and the Hooper House, at Danvers, Mass., are typical.

The Swedes also played a part in bringing the double-sloped roof to America. Along the lower Delaware and in Salem County in South Jersey are found unusually narrow and pointed gambrel roofs that tradition and early Swedish occupation would indicate were derived from the inspiration of the Swedes. The gambrel roof was a familiar form in Sweden at the time that their colonial occupation occurred. Olaf Z. Cervin remarks that the roof lines of the country districts of seventeenth-century Sweden are always conspicuous and that the gambrel-roof form was much used for the smaller structures. "The gambrel story," he says, "is better suited to a cold climate with its cool summers than it is to a scorching sun, for the rooms are too close to the roof." *



The distinctly individual manner in which the gambrel is treated in the Dutch districts is strikingly indicated by the illustrations of this article. All are uniformly low and broad in contour. This roof occurs solely in conjunction with a single-storied wall and is not found outside the locality settled by the Dutch.

Some students of early American architecture have seen an English origin for all forms of the gambrel roof

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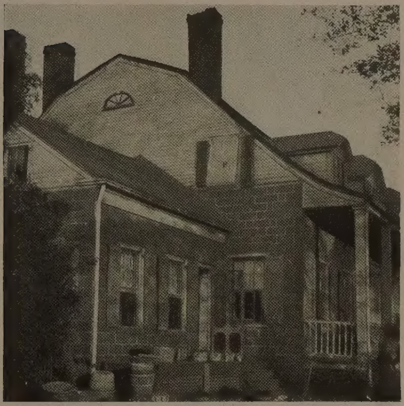
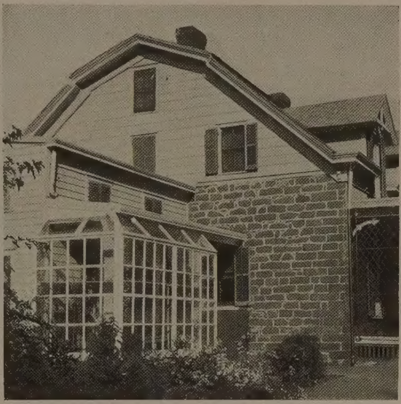
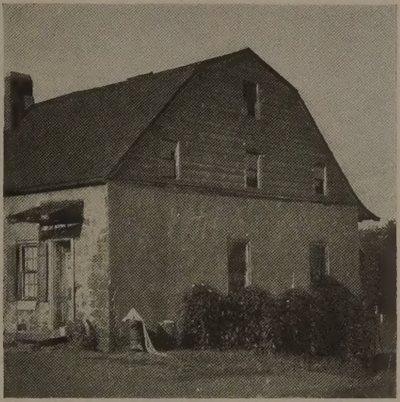
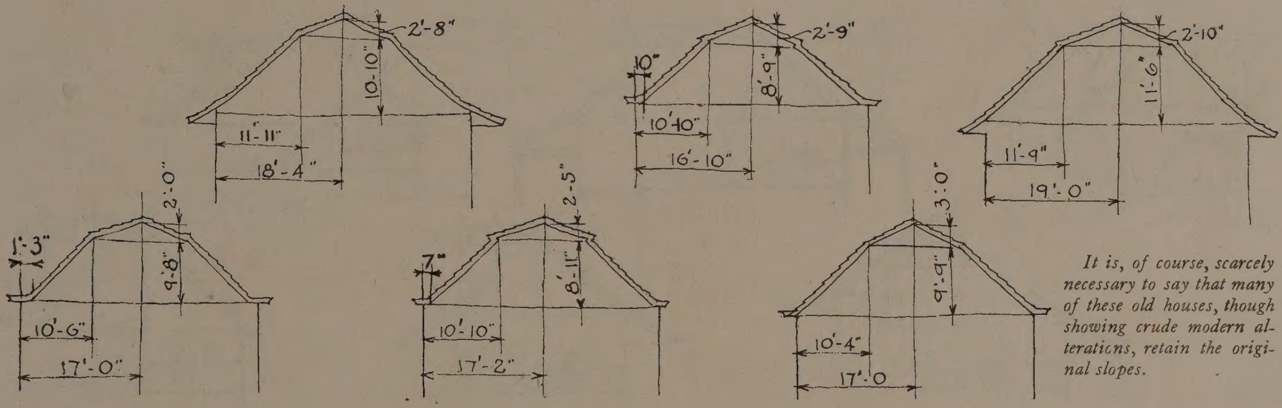
* *American Architect* (1906), vol. XC, p. 109.

that appeared in the Colonies. This conclusion is probably due to the fact that the unquestioned Dutch houses at Newburgh and New Paltz on the Hudson have roofs of a single steep pitch. Other houses of the Dutch, made familiar by accounts and drawings of old Albany and New Amsterdam, have the characteristic stepped brick gables of Holland. It is, perhaps, not generally known that the gambrel roof is likewise familiar in several parts of the Netherlands, and its adoption here was as natural as the acceptance of the stepped or single-pitched roof. According to Professor K. Sluyterman, of the Technische Hoogeschool of Delft, a student of the architecture of old Holland, "the double-sloped roofs as found in America are common in Holland. The upper part of the exterior gables of the small Dutch houses are planked, painted in strong colors (often green or tarred), and in some districts where oak is used, no paint nor tar at all."

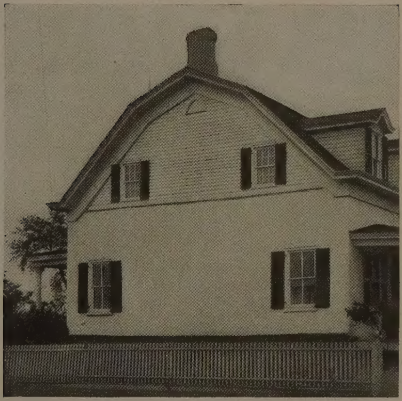


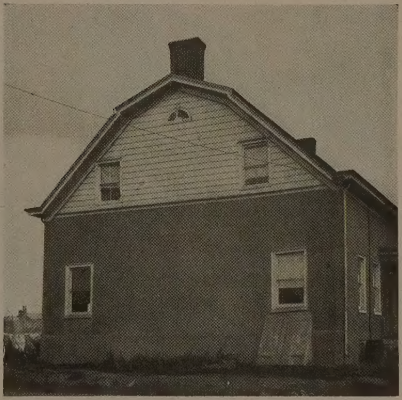


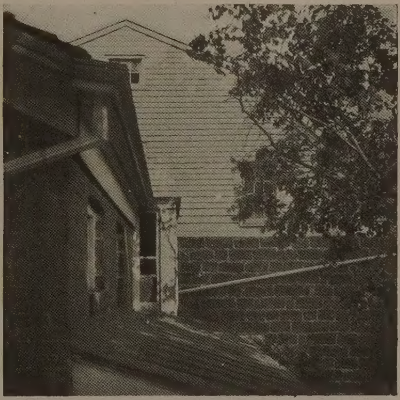




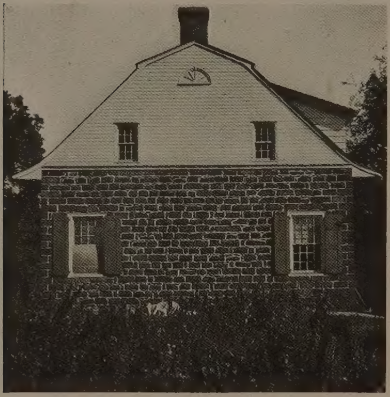
It is, of course, scarcely necessary to say that many of these old houses, though showing crude modern alterations, retain the original slopes.

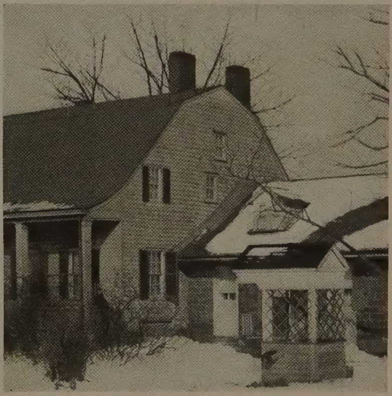


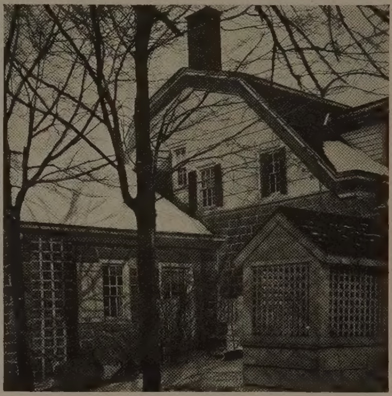


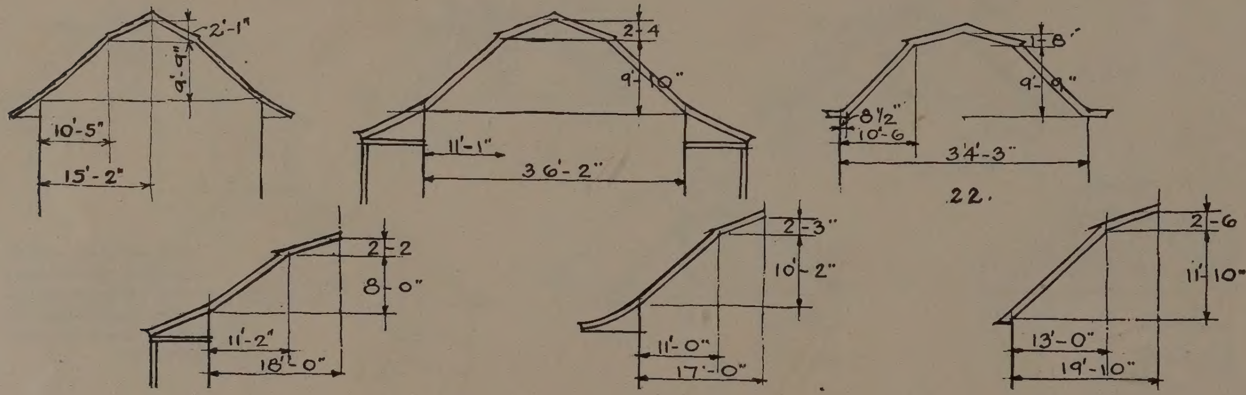


Turning to our illustrations, we note that the upper part of the gambrel ends is treated with almost unvarying uniformity. All are closed in with wood. This is perfectly in accord with the independent spirit of the Dutch that expressed itself in an indifference to English rule. The red sandstone of the base is in no instance carried higher than the sills of the second-story win-









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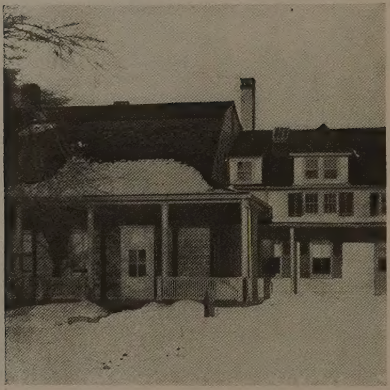

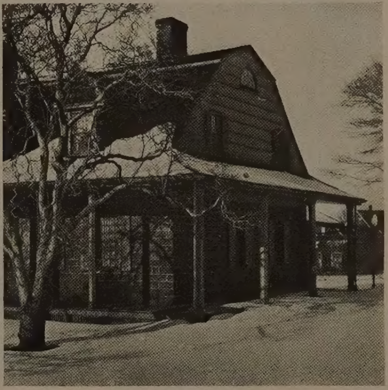

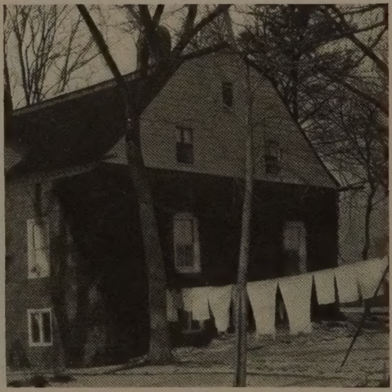

dows. Above this line the gables are faced with clapboards or wood shingles. The shingles that were the most common were originally of white cedar or pine, large in size, and with the corners sometimes cut on an angle or rounded. Measurements have been made of old hand-split shingles, that were preserved beneath a later roof, which measured three feet in length and varied in thickness from three-quarters to an inch. "The houses near Trenton," observes Peter Kalm, a Swedish traveller in the Colonies in 1750, "are partly built of stone, though most of them are made of wood or planks." Of the houses of Woodbridge, N. J., he refers to "the walls of houses which have a covering of shingles at the outside which were round at one end and all of a length below, . . . though the greatest part had roofs with pediments; most of these were covered with shingles." *

The width of the houses measured varies from 28 feet 8 inches to a maximum of 40 feet. The depth of all the examples averages 34 feet 8 inches. The width, while generously ample for the first floor, was none too great for the room space that was required on the floor above. In some cases the second-floor level is kept sufficiently far below the cornice level so as to permit the use of the entire width of the house for bed-

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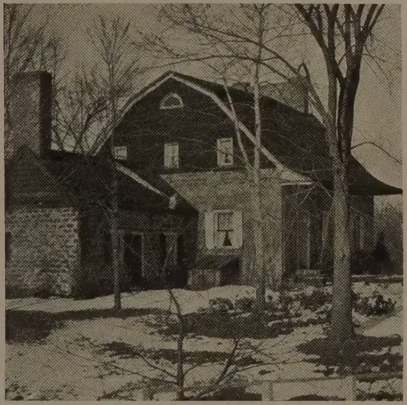
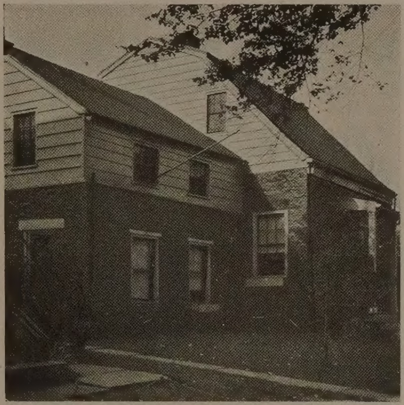
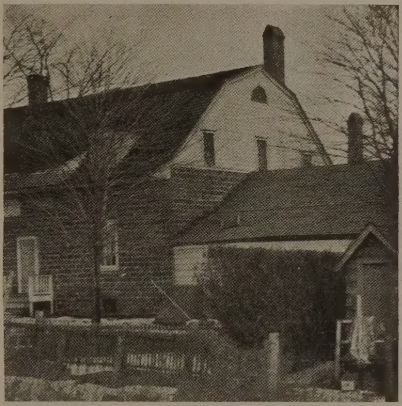
* Peter Kalm, "Travels in America (1749, 1750), vol. I, p. 232.

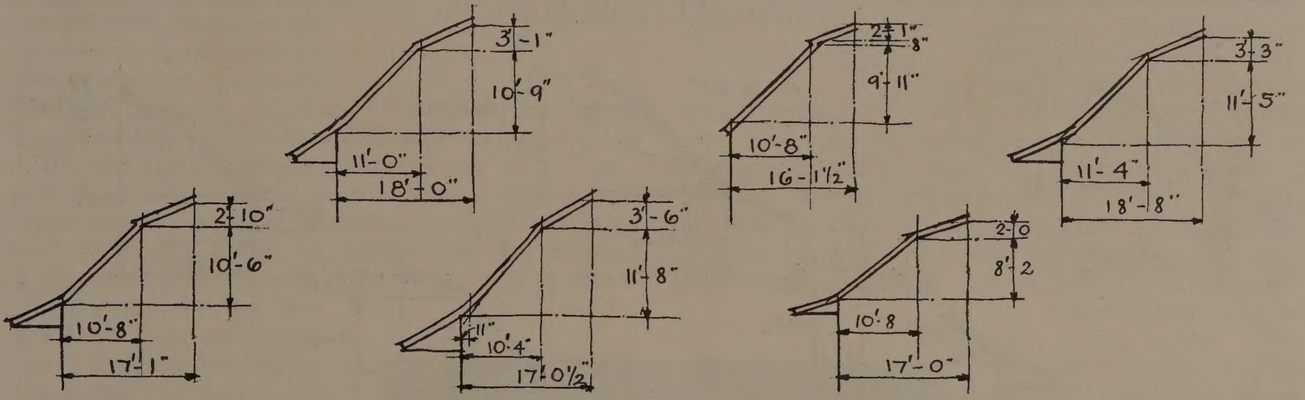
rooms, eliminating the disadvantage of the deep and narrow window pocket made necessary because of the lowness of the roof.

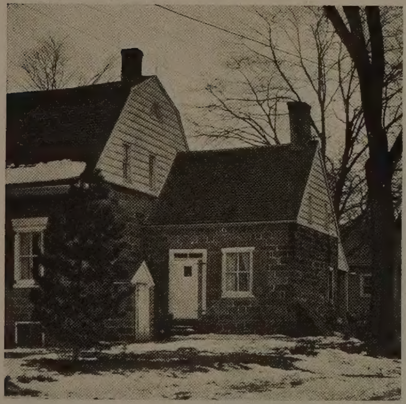
The roof slope was uniformly low in pitch. The lower roof angle in most cases was less than forty-five degrees to the horizontal. Out of thirty-two examples twenty-seven have a slope that is less than a forty-five-degree angle and in none is it less than thirty-six degrees.

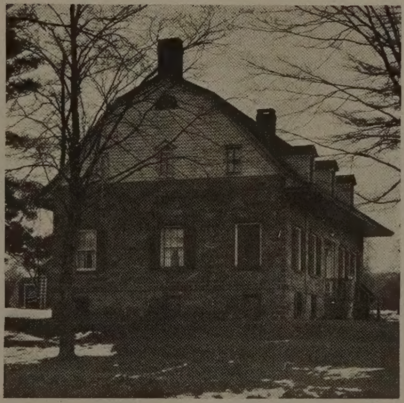


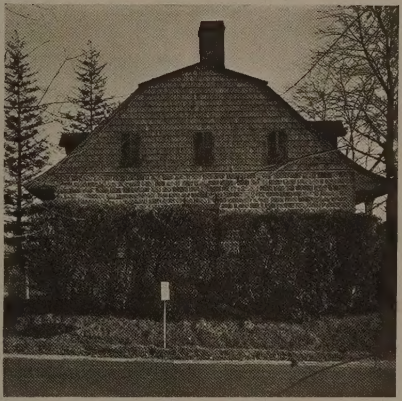






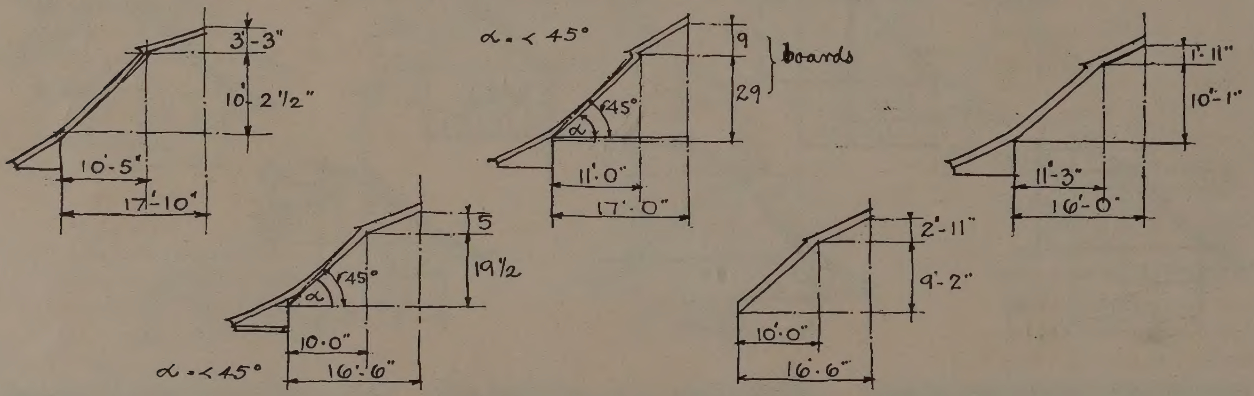


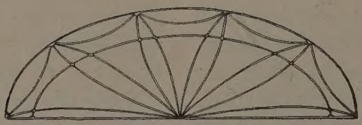




Without authentic dates it is not possible to trace the development of the roof treatment or to discover indigenous features. Such known specimens as the Hopper House (1816–1818), Hackensack, and the Vreeland House (1818), at Nordhoff, N. J., differ from the Ackerman (Brinckerhoff) House with its date-stone of 1704, in the respect that greater attention is given to the moulded treatment of the main cornice and the gable moulds in the later examples. The late mouldings are light and are frequently enriched with gouge decoration. The mouldings of the gable edge at first met in an awkward manner where the two slopes of the gambrel come together. In the instance of the Dyckman House (1783–1785), in New York City, the moulds were cut to a curve at this point of intersection, permitting the moulded edge to continue without interruption.

The unsupported roof projection, seldom found on the Dutch houses of Staten Island, is sufficiently frequent in Northeastern New Jersey to suggest that it may have originated there. Professor Sluyterman observes that it is not known in Holland. It occurs on the Ackerman (Brinckerhoff) House, erected in 1704, but it is not certain that it may not have been a later addition. Certainly the treatment with columns is of late origin, when the Classical Revival had popularized the porch in most parts of America. The square columns of the Vreeland House were not added until 1846.





Is the Skyscraper Tolerable?

By Lewis Mumford

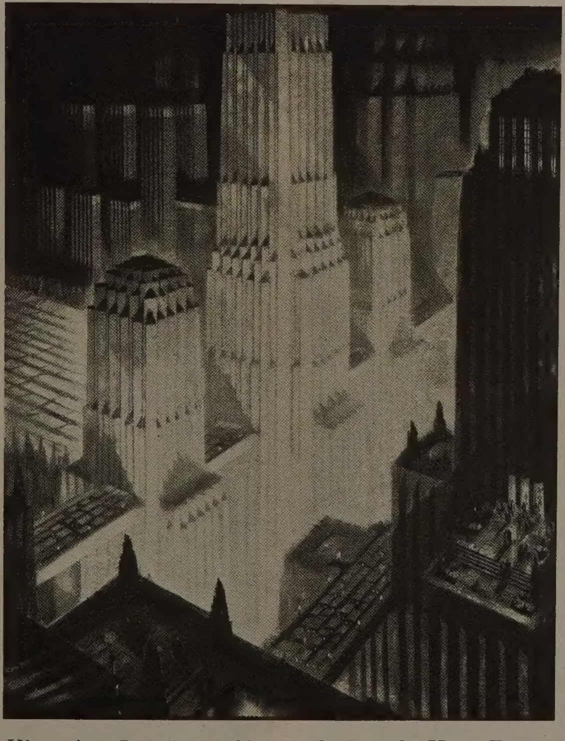
THE American skyscraper was heralded a few years ago as the one noble and original form of American architecture. Its technical originality cannot be disputed; there has been frame construction in the past, but the steel cage and the curtain wall belong peculiarly to our own period; and the more closely the technical essentials of the skyscraper are emphasized by the architect the more nearly he has come to giving the tall building its appropriate shape and treatment.

The nobility of the skyscraper as a universal form of architecture calls for a little more scrutiny. These great structures have risen in all our cities, not primarily because they are convenient or beautiful, but because they bring a congested use of the land, which automatically increases the economic rent. Some of our architects have assumed that this process is a permanent one. They are surprised to find that a great many people are beginning to have their doubts as to how long it can be tolerated; since every increase of ground congestion in our central districts diverts into rapid-transit systems funds which are badly needed for schools and parks. Mr. Henry H. Curran and Mr. Thomas Edison have given voice to this growing body of doubt. The response that has been made to their statements shows that the defenders of the skyscraper as a social form have more passion than logic on their side. Mr. Harvey Corbett and Mr. Alfred Bossom have even asserted that the skyscraper decreases street congestion. At this rate it will not be long before the defenders of the skyscraper will assert that high buildings also add to the amount of available sunlight in the lower stories.

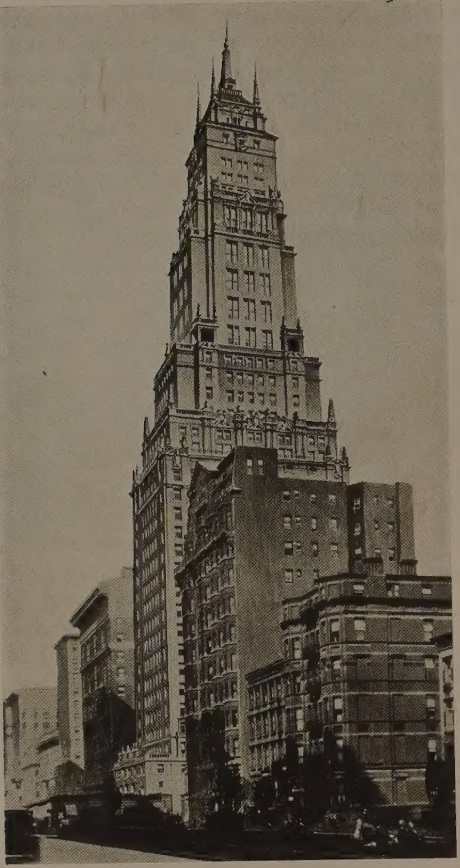
In this discussion I propose to take for granted the fact that, beyond a certain number of stories, mathematically determinable in terms of the relation of the occupants to the width of streets and the current systems of transportation, high buildings lay an excessive economic tax upon the great body of the community, for the benefit of the relatively small group which invests and speculates in skyscrapers. The Russell Sage Foundation survey has shown that eight-story buildings, throughout Manhattan Island, would house a larger population than is at present accommodated even within our vast additions of aerial cubage; from the standpoint of the city as a whole, even the necessity for concentration in finance, insurance, and port industries does not actually necessitate the building of skyscrapers. If one grants that the skyscraper is now a nuisance, under what forms and conditions would it be tolerable? Those who are genuinely interested in the skyscraper as an esthetic form must answer this question for themselves.

The skyscraper as an isolated achievement in form is one thing; the skyscraper as a common method of congesting population and increasing ground rents is quite another. The architectural defenders of the skyscraper weaken their whole case by assuming that one cannot be accepted without the other; and instead of merely saying that, under the present conventions of business, they have no alternative to building as high, and to filling a plot of land as completely, as financial necessities demand and zoning ordinances permit, they also assert too lightly that these conditions are the very key to their success. Quite the contrary is true. The half a dozen really fine skyscrapers that have been erected in New York occupy, for one reason or another, quite unique plots and sites; for the rest, the great mass of our high buildings, such as those that line the side streets in the Forties, are either commonplace or meretricious. If they have any redeeming feature, it is the fact that on a narrow street only their partial silhouettes can be seen.

What are the conditions under which our high buildings have been to any large extent esthetically successful? One of them is that the building should have a sufficiently long avenue of approach to enable the whole structure to be taken in at once. The achievement of the Woolworth Building is incomparably raised by this fact; for it is at its best from



View of an Imaginary City—a drawing by Hugh Ferriss



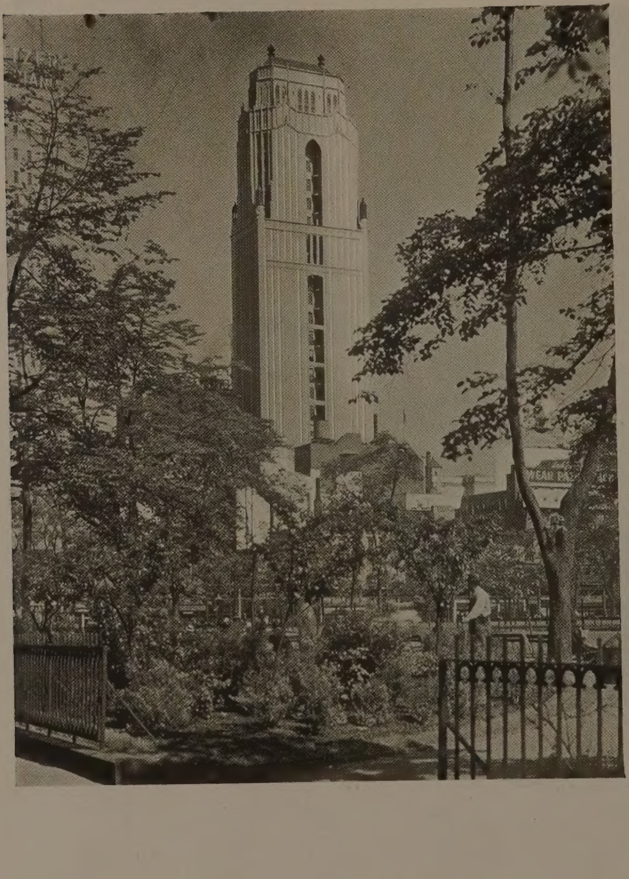
Mr. Emory Roth's Ritz Tower now dominates 57th Street, New York. How will it appear when surrounded by other skyscrapers?

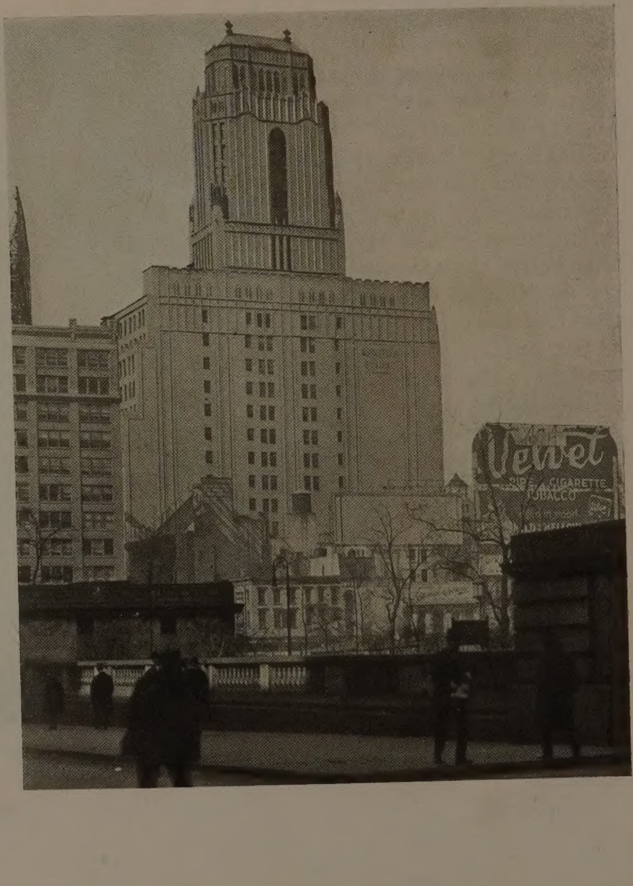
beneath the arcade of the Municipal Building. The same is true of Mr. Hood's Radiator Building on Bryant Park, while, on the contrary, Mr. Corbett's Bush Tower, which could once be viewed from the Park, is now covered by another building—and has no longer its original esthetic importance. The second condition is that the plot should be sufficiently large to enable the architect to treat the building as a mass. All of Mr. Hugh Ferriss's ideal plans assume this condition, and very often they assume, too, wide intervals of low buildings or open spaces between the high ones; but as skyscrapers are built today, thin slabs and windowless blind sides are more frequent than great masses and fine intervals. The Shelton, the Radiator Building, the Woolworth, the American Telephone Building, occupy sites sufficiently protected against intrusion to enable the building to be treated as a unity. Buildings which occupy corners sometimes have this advantage, partly, on two sides; but without this essential condition the architect labors under a handicap which neither taste nor ingenuity can solve. A sufficiently large site, a sufficiently long approach, and a sufficient interval between skyscrapers—these are the basic conditions. Without them, the skyscraper becomes a ridiculous and impotent architectural form, of no esthetic value, since it cannot be seen and since as a mere façade it must remain commonplace, even if it can be seen.

Regarding the skyscraper purely from the standpoint of its architectural appearance, it is plain that the height and site should be strictly regulated.

The great mass of buildings must eventually be re-

Below are shown two pictures of Mr. Corbett's Bush Building—one when it stood alone, the second when blanketed by another high building

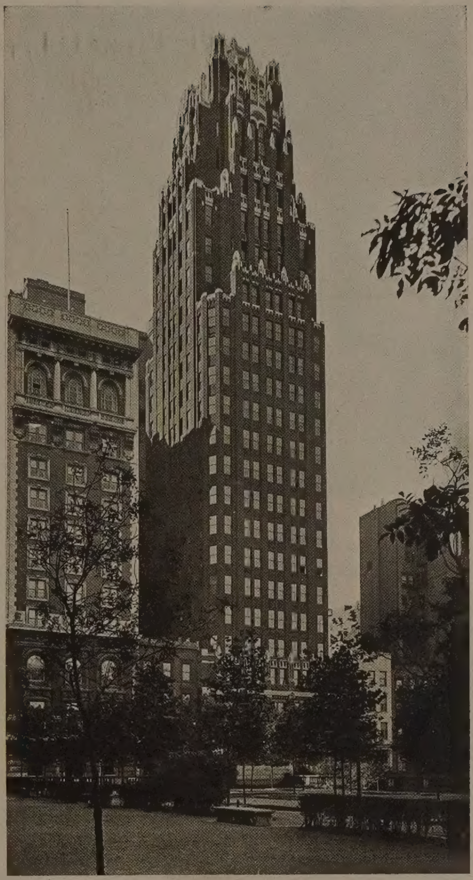




stricted in height in accordance with street widths and traffic capacities, since the defiance of this principle leads to endless expense, congestion, muddle, and inefficiency; and in accordance with this principle there may eventually be portions of the city in which it will not be permissible, say, to build a structure *less* than eight stories. The monumental skyscraper form, however, may be denied to merely business buildings; for the very tall building is, municipally speaking, a luxury, and it may well be confined to municipal offices, or to buildings like hospitals and laboratories.

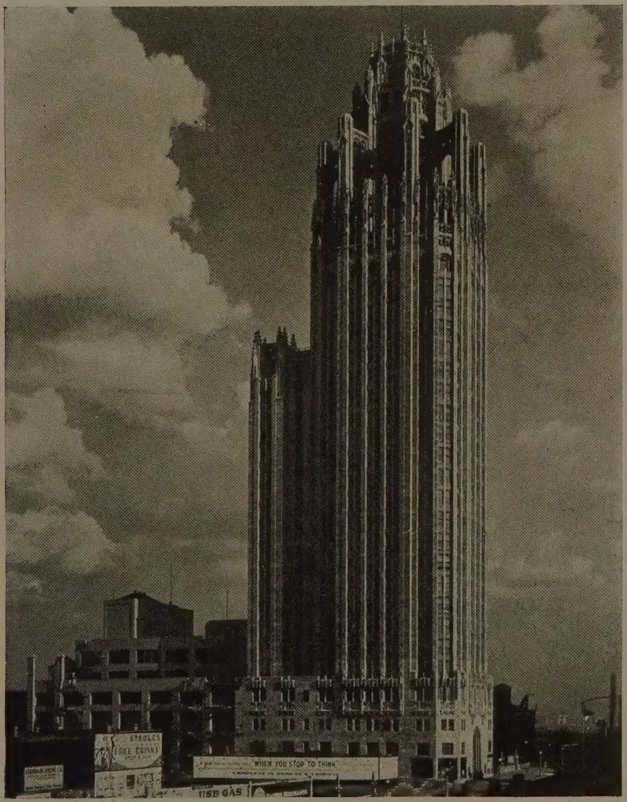
This sort of future for the skyscraper may seem chimerical; but it is much closer to tangible realities than the sort of future Mr. Corbett predicts and boasts about. Congestion on the scale that Mr. Corbett would have it is far too expensive a public luxury; for although engineers may theoretically solve the traffic problem by converting the entire street-level of our buildings into continuous traffic arteries, no one has suggested where the funds for a sufficient reconstruction are to come from—and once the burden falls back on the skyscraper, where it belongs, the financial advantages of that form will speedily vanish.

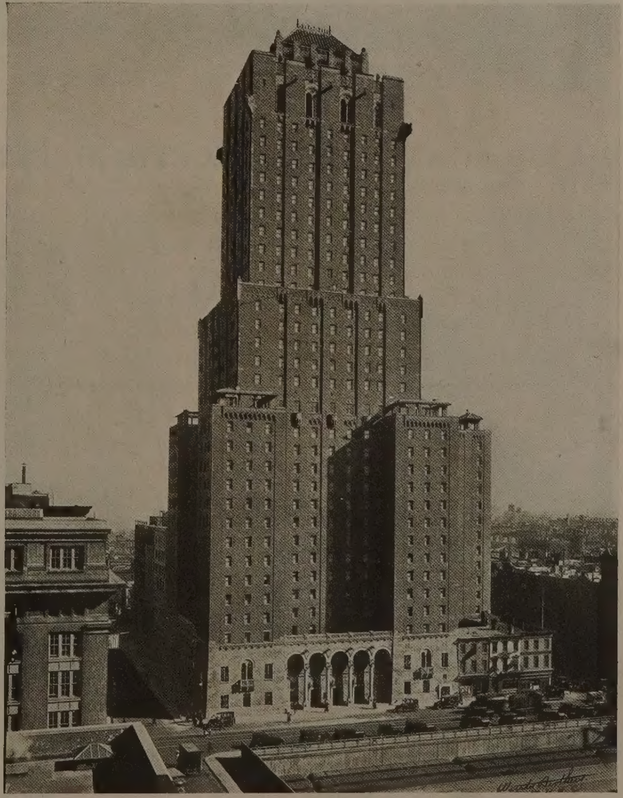
Treating the skyscraper as a public monument, allocating to it the necessarily limited number of sites, and utilizing to the full the knowledge and taste that have so far been achieved in dealing with these new forms, that is a future that is worth speculating upon and planning for. Any other kind is neither socially justifiable nor economically defensible—nor yet, in the long run, will it contribute any permanent architectural beauty.

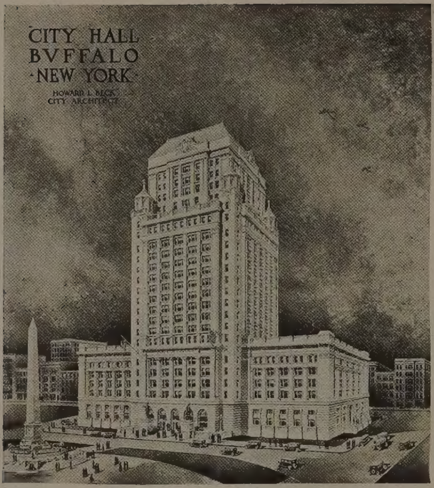


Mr. Hood's Radiator Building, facing upon Bryant Park, cannot be robbed of its open approach

Chicago's Tribune Tower, by Messrs. Howells and Hood, below at the left, will probably holds its domination for many years to come. Mr. Harmon's Shelton, below at the right, is being elbowed since this early picture was taken

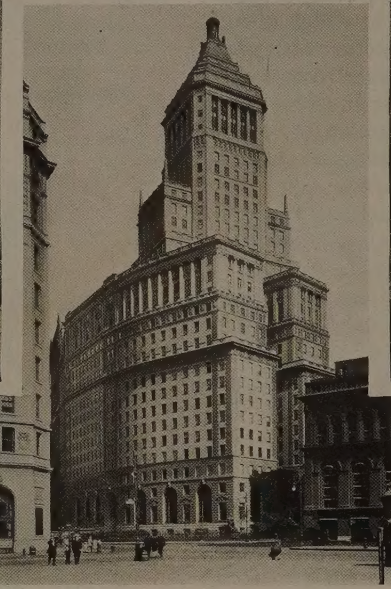


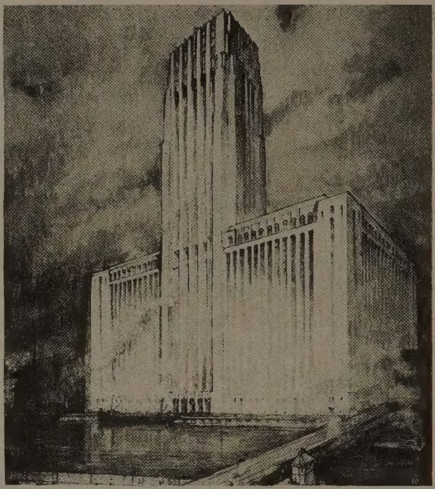




Buffalo's proposed City Hall, work upon which will be started early this year. Howard L. Beck, City Architect

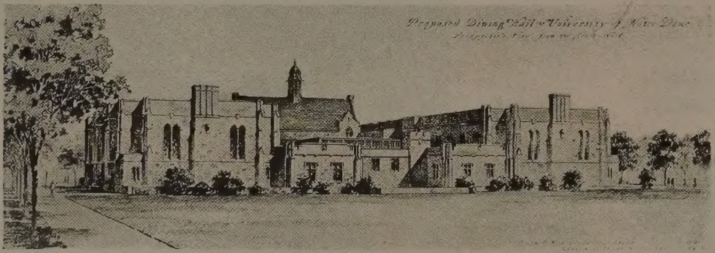
The recently completed Standard Oil Building in lower Manhattan. Carrère & Hastings—Shreve & Lamb, Architects



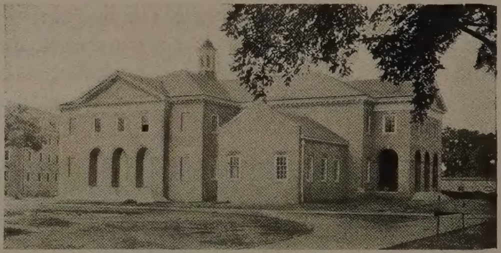


Chicago is about to add to her various marts the American Agricultural Mart. Granger & Bollenbacher, Architects

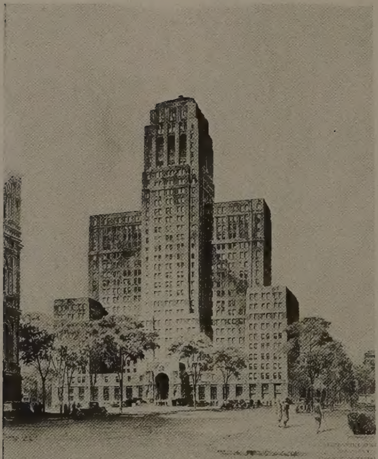
Proposed dining-halls for the University of Notre Dame, South Bend, Ind. Cram & Ferguson, Architects; Kervick & Fagan, Associate Architects



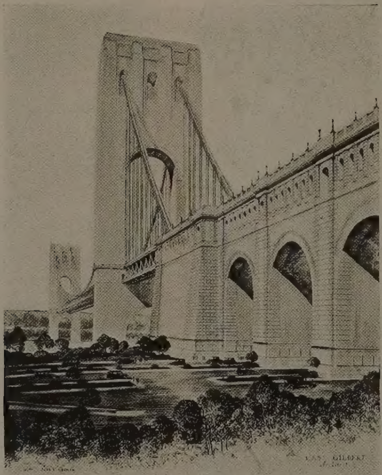
An auditorium to commemorate the 150th anniversary of Phi Beta Kappa; William and Mary College. Peebles & Ferguson, Architects



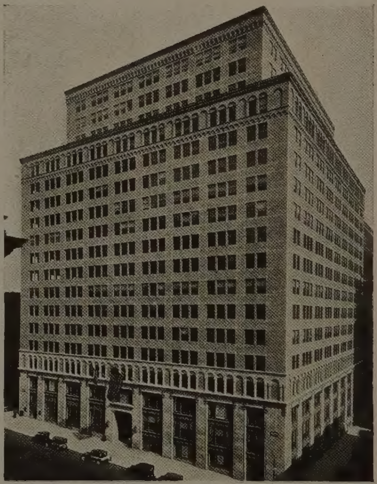
Architectural News in Photographs



Albany's proposed State Office Building, drawings for which, by Sullivan W. Jones, State Architect, have recently been sent out to bidders



The projected Hudson River Bridge, to join Fort Lee with Manhattan. Cass Gilbert, Architect; O. H. Ammann, Bridge Engineer



York & Sawyer's One Park Avenue, New York, selected by the jury of the Fifth Ave. Association as the second most meritorious new building of the year

EDITORIAL COMMENT

◆ Vol. LV, No. 2 ARCHITECTURE February, 1927 ◆

AMEN!

THE difficulties of dealing with committees of laymen in building for public needs are familiar to all of us. Like the poor, they are always with us. Nevertheless, over a period of years the improvement in the public taste is markedly evident. The leaven of a better appreciation of architecture on the part of the general public is spreading through the mass. Such a declaration as that recently made by the Methodist Episcopal Church would have been inconceivable a generation ago:

"We believe the time is at hand for the Methodist Episcopal Church to take an advanced stand in the whole matter of church building. We should no longer suffer ugly and inadequate buildings to be erected. Ugliness, slovenliness, or unsuitable arrangements should be looked upon as evidence of irreverence and carelessness in sacred things.

"A Methodist Episcopal Church edifice as a centre for our ministry of worship, evangelism, instruction, fellowship, and service merits the best possible planning and care. It should concretely represent the faith that gave it expression. As a sanctuary, the very architecture should tend to induce the spirit of reverence and worship. As a school and social building, it should efficiently care for the standard educational programme of our church.

"Recognizing that the building of churches is a highly specialized task, in which many otherwise good architects are unskilled, we urge the selection of architects who understand something of the history of church architecture, who appreciate the architectural features making for reverence in worship, who thoroughly understand the demands of a modern church programme, and who have had actual and successful experience in the building of churches.

"The Methodist Episcopal Church stands to-day in a position of great responsibility because of its heritage and its large building programme. It ought to recognize its opportunity to make a valuable contribution toward a distinctive church architecture expressive of a vital Christianity."

◆ ◆ ◆

THE FIVE-DAY WEEK

IT is likely that we shall see, before many years have passed, the acceptance in this country of the five-day week as the normal measure of labor. It will not come without a struggle, just as the eight-hour day did not replace the ten-hour day without a struggle, but it is surely on the horizon.

There are those who believe that the shortening of our hours of labor must inevitably bring decrease of production, a lessening of the nation's wealth, and industrial demoralization. There were probably even more who believed the same of the proposed eight-hour day. Yet with the eight-hour day a recognized institution, we are enjoying unprecedented prosperity.

Two powerful factors have contributed to this successful transition. One, pretty generally recognized, is the gain in efficiency to the human machine by stopping work two hours farther away from the point of fatigue. The second, not so widely recognized, is the opportunity given the worker to enjoy the fruits of his labor. It seems quite obvious that the man who finishes his day's work in eight hours instead of ten is the man who has increased the consumer market for luxuries to an unheard-of size in America to-day. And by becoming himself more of a consumer he has further stimulated the demand for what he produces. The worker and the consumer are not two men; they are one and the same. If we can conceive of a state of mind that would now increase again our hours of labor, robbing our hours of play, we should be confronted with a lessening demand that would play havoc indeed with the industrial balance.

It is obvious that the work hours cannot continue indefinitely to be shortened—to the vanishing point. Nevertheless, to work efficiently a man must play; in order to play he must work efficiently. It is a perfect circle—and it presages a five-day week.

◆ ◆ ◆

WATER IN CONCRETE

THE part played by water in the mixture of concrete has long been the subject of conjecture and debate. In a booklet published by the Building Code Committee, United States Department of Commerce, the strength of the resulting concrete is acknowledged to be directly dependent upon the proportion of mixing water used. Mr. Duff A. Abrams, director of the Portland Cement Association Laboratory, established a law of "water-cement ratio" after a long series of tests. This law states that the strength of concrete is in inverse proportion to the amount of water used in mixing, provided that the mix is workable and that the materials used are clean and sound. Nor is the "workable" consistency a factor dependent upon the fallible judgment of the worker, for the American Society for Testing Materials in formulating the "slump test" has enabled varying consistencies of the mixture to be accurately labelled and reproduced. The degree of workability desired for puddling concrete around reinforcement that is not closely spaced is represented by a slump of three to four inches. More water in the mixture means a progressive falling below the maximum strength of the resulting concrete.

BOOK REVIEWS

GREEK FICTILE REVETMENTS IN THE ARCHAIC PERIOD. By E. Douglas van Buren. Illustrated with numerous photographs and drawings, and a frontispiece in color. 208 pages and 39 plates, 7½ by 10 inches. John Murray, London. 24s. net.

Mrs. Van Buren has made a valuable contribution to archæology in this book and her two previous volumes: "Figurative Terra-Cotta Revetments in Etruria and Latium," and "Archaic Fictile Revetments in Sicily and Magna Græcia." The present volume, after a brief introduction, divides the work under sites and again under a classification of the terra-cottas by subject. The student of this branch of Greek decorative detail will find Mrs. Van Buren's books the one most comprehensive exposition of the subject, the existing examples of which are few and now widely scattered.

SHIP MODEL MAKING. How to Make Worth-While Models of Decorative Ships. By E. Armitage McCann, Master Mariner. Eighty-three illustrations and two large plans. 129 pages, 6 by 9 inches. The Norman W. Henley Publishing Co., New York. $2.50.

Detailed instructions for the building of two decorative models that are approximately true in scale and true to type. The models are a Barbary pirate felucca and a Spanish galleon, and the instructions are so clear and specific as to invite the craftsman to his bench with excellent prospects of success.

SHEAR TESTS OF REINFORCED CONCRETE BEAMS. By Willis A. Slater, Arthur R. Lord, and Roy R. Zipprodt. 109 pages, 7 by 10 inches. Technologic Papers of the Bureau of Standards, No. 314 (Part of Vol. 20). Washington: 1926: Government Printing Office. 50 cents ($1.25 per vol. on subscription).

The results of tests on reinforced concrete beams, mostly of I-shaped section. The shearing strengths found were generally much higher than have been obtained in previous investigations, due probably to larger web reinforcement.

DESIGN OF CONCRETE STRUCTURES. By Leonard Church Urquhart, C.E., and Charles Edward O'Rourke, C.E. 501 pages, 5¾ by 9 inches. Second Edition, Diagrams and Tables. New York: 1926: McGraw-Hill Book Co., Inc. $4.

This book, by the Professor and Assistant Professor of Structural Engineering at Cornell, was first issued in 1923 and soon took its place as one of the standard text-books in engineering schools. This second edition has been completely reset to bring it fully up to date and in accord with our increasing knowledge of concrete, plain and reinforced. It is not a working handbook but a very comprehensive treatment of the theory of concrete construction.

THE DOMESTIC ARCHITECTURE OF THE EARLY AMERICAN REPUBLIC: THE GREEK REVIVAL. By Howard Major, A.I.A. 96 pages and 168 plates, 7½ by 11 inches. Containing 256 illustrations, mostly from photographs, with a frontispiece in color. Philadelphia: 1926: J. B. Lippincott Co. $15.

The first adequate showing of the Greek Revival houses in their spread from the Gulf to the Great Lakes and from the Atlantic Seaboard to the Mississippi Valley. It is a comprehensive exhibit, but it is difficult to understand how the author could have been swept so far off his feet as to feel "that this Greek Revival is America's national expression in architecture," and "is a style which readily adapts itself to present-day use." If the best we could do in designing an American house of to-day were to adapt the plan of a Greek temple, art would have come to a sorry pass indeed. As an interesting record of a rather low ebb in American architectural gropings this book is well worth while; as an attempt to make a fetich of the Greek Revival and hold it up for emulation to-day—well, we suspect Mr. Major of writing with his tongue in his cheek.

AMERICAN APARTMENT HOUSES OF TO-DAY. Edited by R. W. Sexton, Associate Editor *The American Architect.* 316 pages, 9½ by 12½ inches. Largely illustrations—plans, details, exterior and interior photographs. New York: 1926: Architectural Book Publishing Co., Inc. $16.

To some work reprinted from several architectural journals is added much new material, representative of the work of sixty-eight architects—chiefly the typical floor plans and exterior photographs or preliminary perspectives.

GLASS AND GLAZING. By Emanuel E. Ericson, Director Department of Community Mechanics and Vocational Education, State Teachers College, Santa Barbara, Calif. 146 pages, 5¼ by 7½ inches. Illustrated with many diagrams and photographs. Peoria, Ills.: 1926: The Manual Arts Press. $1.75.

COLONIAL FURNITURE IN AMERICA. By Luke Vincent Lockwood. Third Edition: 2 vols., 752 pages, 8½ by 12 inches. Over 1,000 illustrations from photographs. New York: 1926: Charles Scribner's Sons. $30.

The accepted standard work on the subject. Since the second edition, published in 1913, many pieces have been found that are of sufficient importance to be included. It is an eloquent fact regarding Mr. Lockwood's book that in the quarter-century of its existence the only changes to be made in successive editions have been the additions of newly discovered material.

THE STUDY OF ARCHITECTURAL DESIGN. By John F. Harbeson, A. I. A., Assistant Professor in Architectural Design, School of Fine Arts, University of Pennsylvania; Instructor, Pennsylvania Academy of the Fine Arts; former Patron, T Square Club Atelier. Foreword by Lloyd Warren. 309 pages, 8¾ by 11¾ inches. Three hundred and seventy-six illustrations from drawings, photographs, and sketches. New York: 1926: The Pencil Points Press, Inc. $7.50.

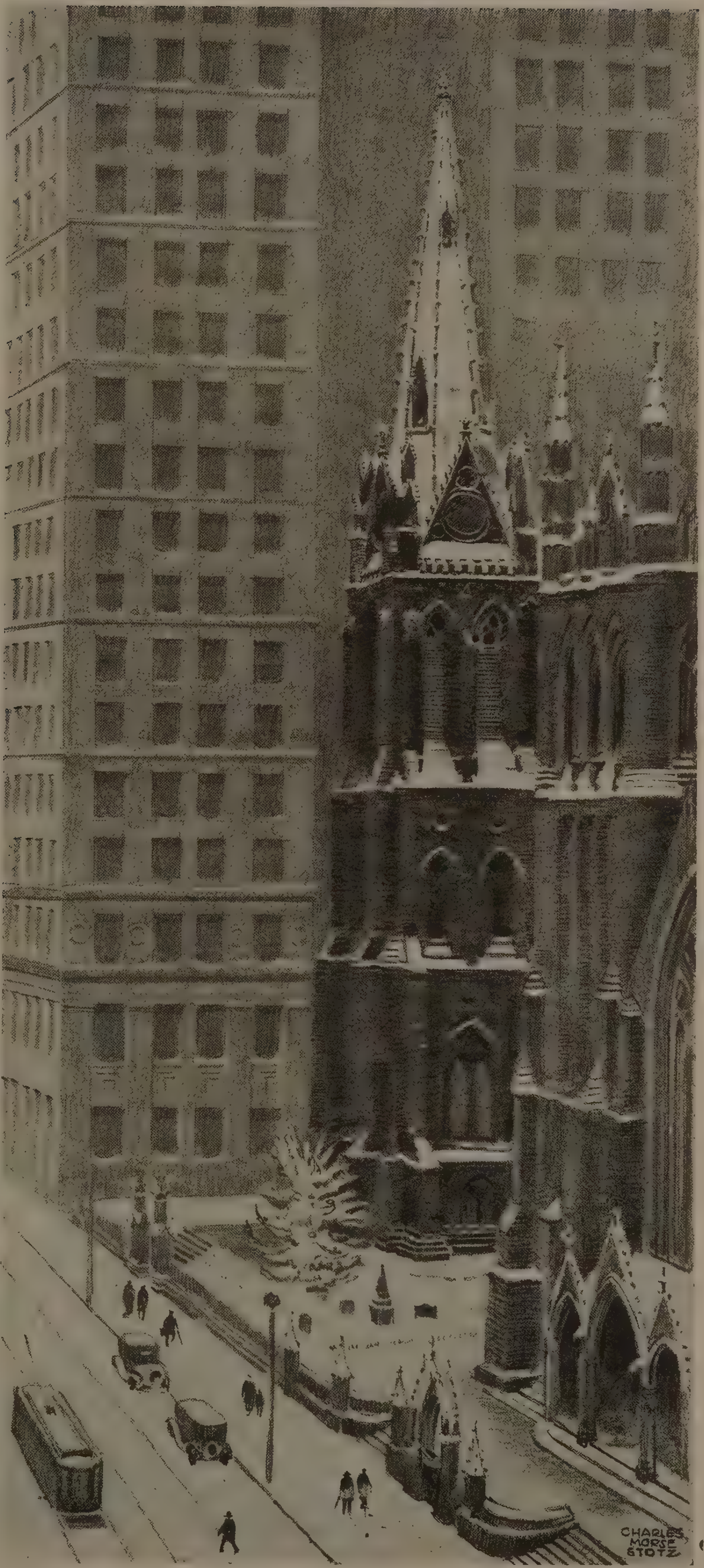
Mr. Harbeson has made a most comprehensive book for the atelier student, or for one who must carry on alone his studies in design. Not only does he set the student's feet in the proper paths leading to greater facility in design but he posts him well as to all the short cuts, the most efficient ways of working, the proper scheduling of his progressive efforts in attempting the problems set by the Beaux-Arts Institute of Design. The author's elucidation of the mysteries of the esquisse, "mosaic," perspective, scale, character in design, the best use of books, near-by buildings, and photographs, entourage, and rendering, seems the equivalent of long study in an atelier. The abundant illustrations help to make the book one that the student of Beaux-Arts methods cannot well be without.

Tides of Commerce

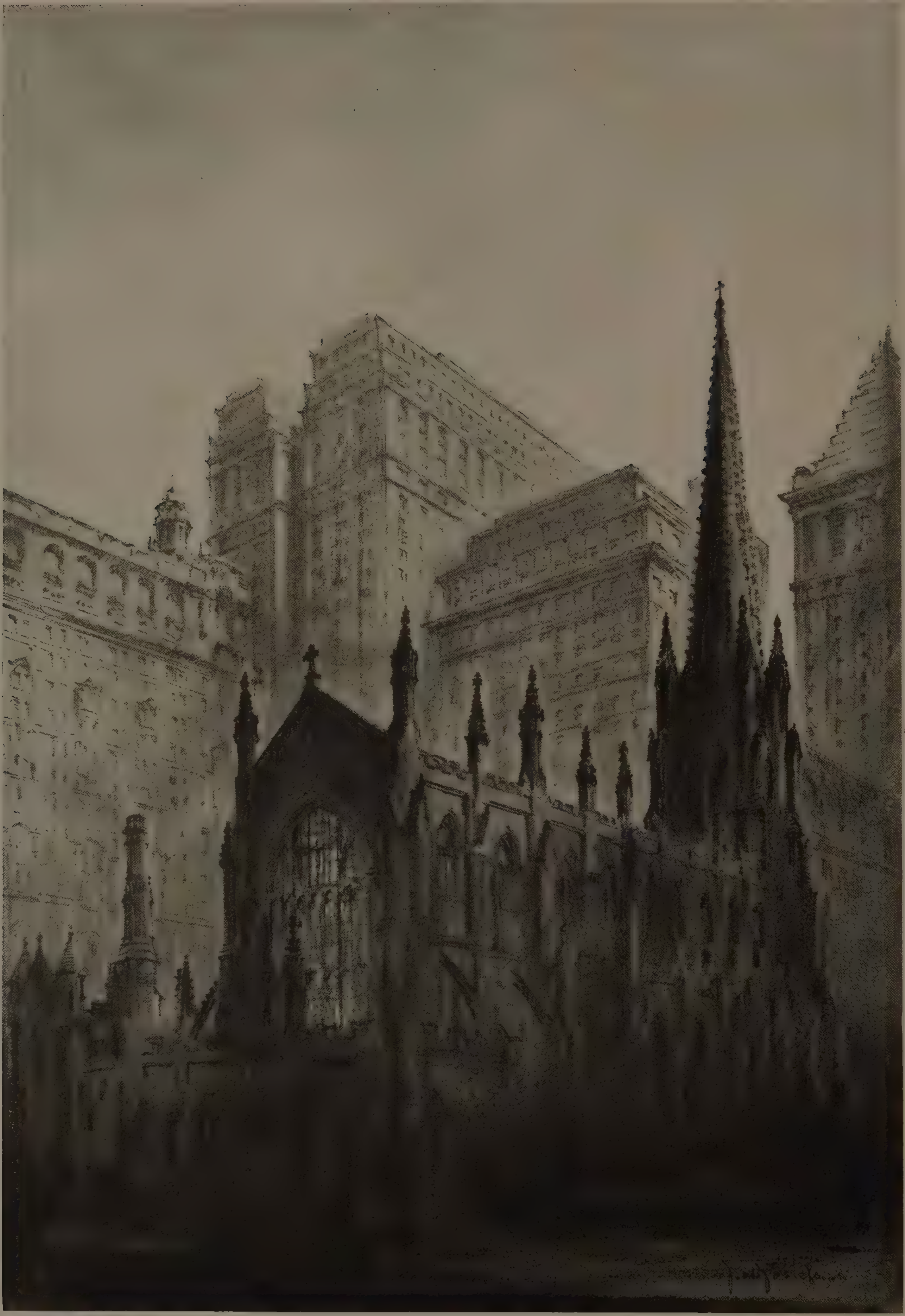
MORE and more frequently these days does the eye catch a glimpse of some sturdy landmark nearly engulfed by the huge commercial structures about it, but still valiantly holding its place not merely upon the land but also in the affections of mankind.

From the office windows of Edward Stotz, Architect, in Pittsburgh, Mr. Charles M. Stotz has recorded in pencil one case of the kind, where the First Presbyterian Church (in foreground) and Trinity Church are together resisting the tides. Trinity Church is one of Pittsburgh's most venerable landmarks—the third church building upon the site, the first having been built in 1787. In the background is Mr. Burnham's Oliver Building.

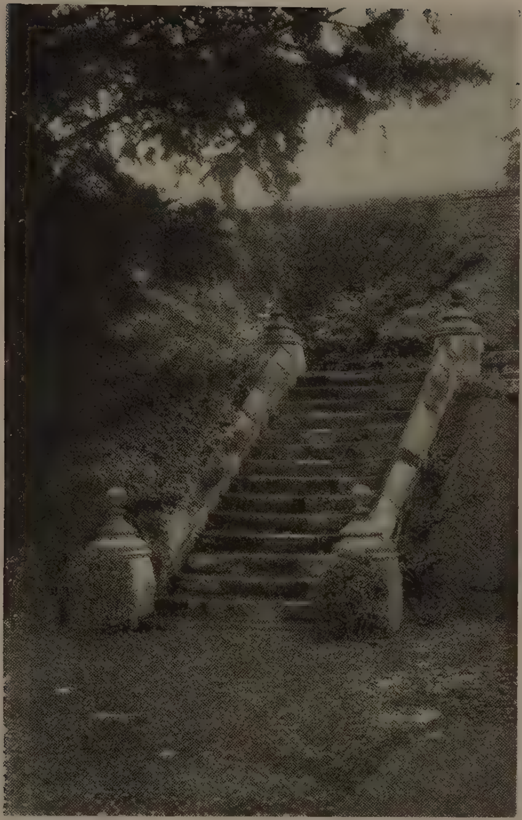
On the page following is Trinity Church on lower Broadway, New York, serene in the midst of a maelstrom of business activity.



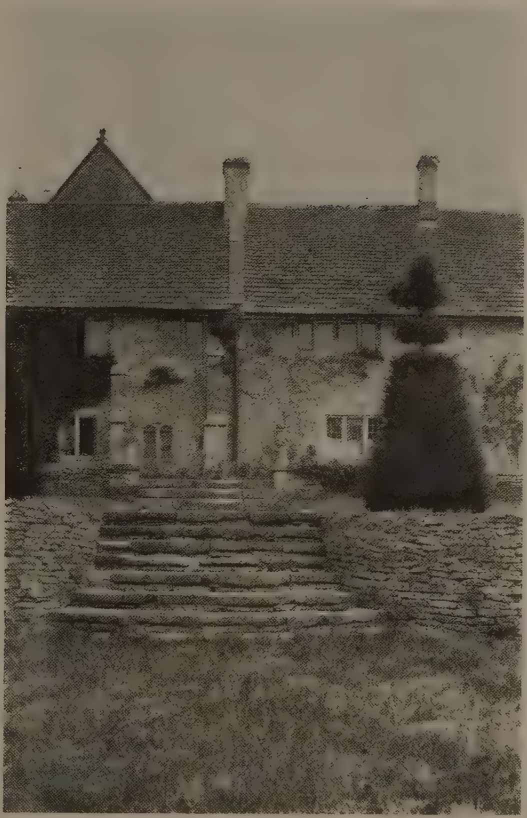
FROM THE DRAWING BY
CHARLES MORSE STOTZ



Trinity Church, New York FROM THE WATER-COLOR BY T. T. DE POSTELS



PENSHURST CASTLE

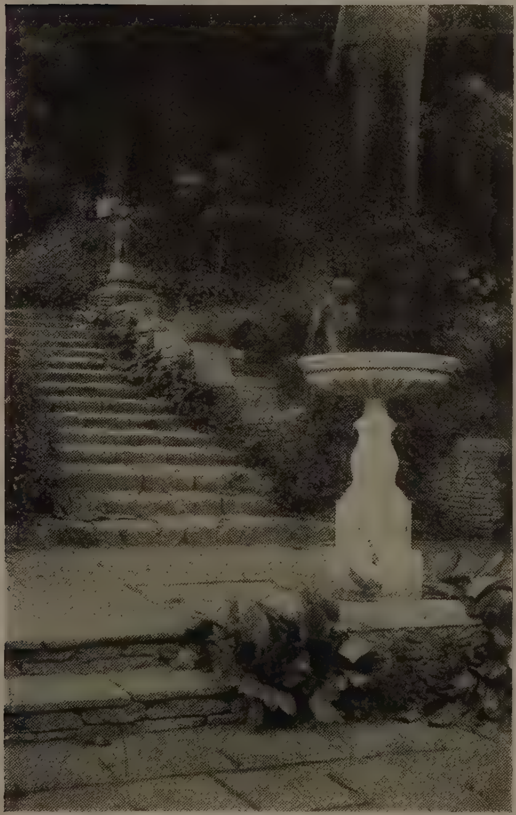


SOUTH WROXALL MANOR

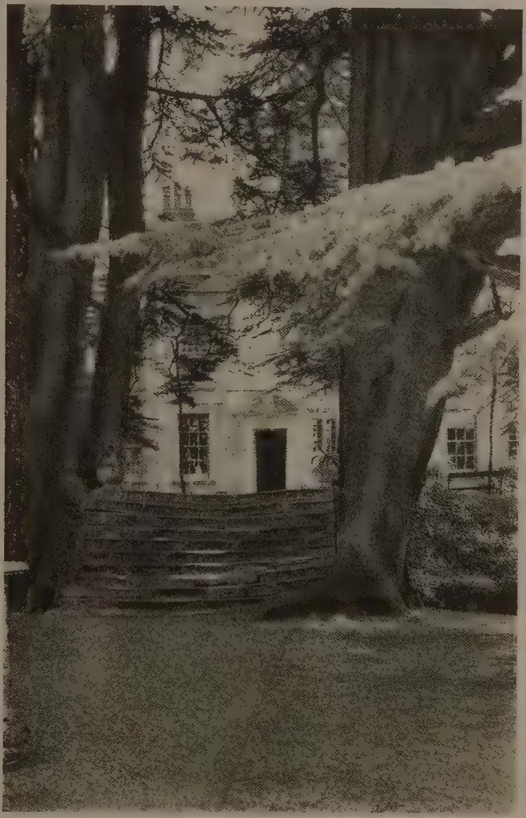
Photographic Notes of Garden Steps in England

BY WILLIAM PITKIN, JR., AND SEWARD H. MOTT

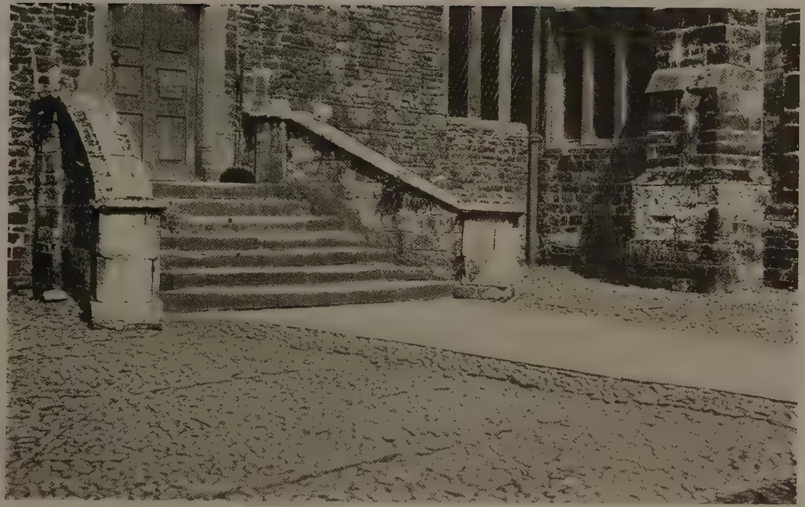
LANDSCAPE ARCHITECTS



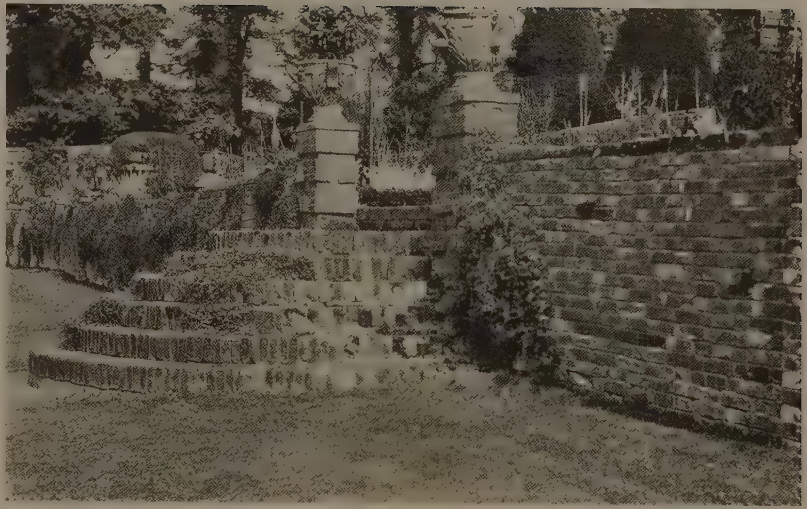
IFORD MANOR



CANONS ASHBY



CANONS ASHBY

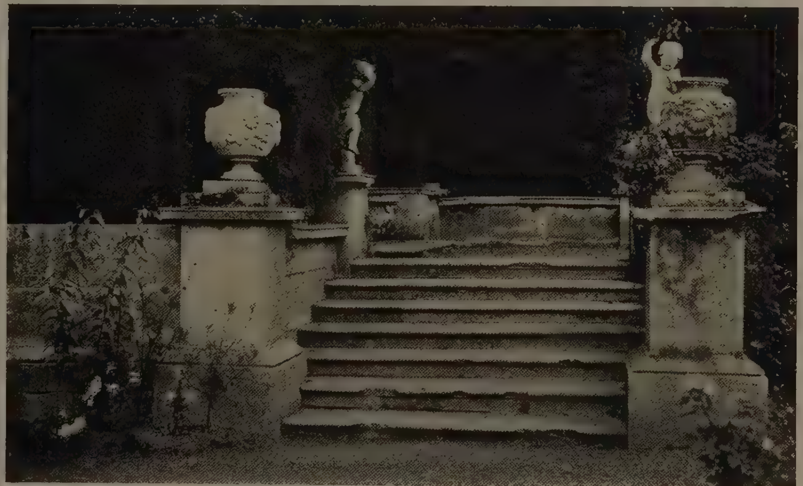


PACKWOOD HOUSE

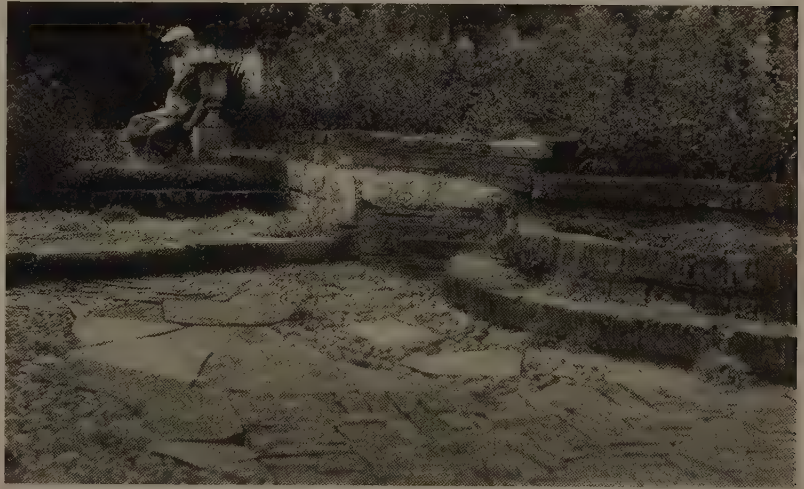
Photographic Notes of Garden Steps in England

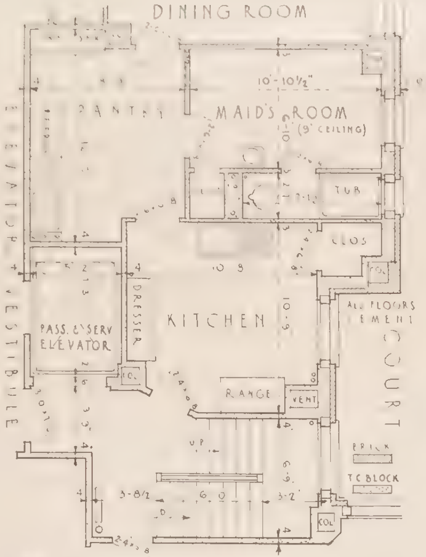
BY WILLIAM PITKIN, JR., AND SEWARD H. MOTT, LANDSCAPE ARCHITECTS

WILTON HOUSE

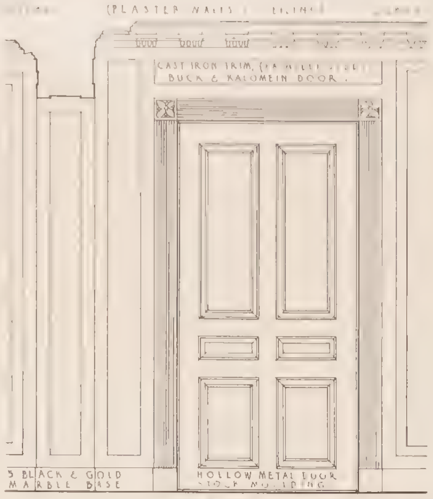


WOOTEN WOWEN

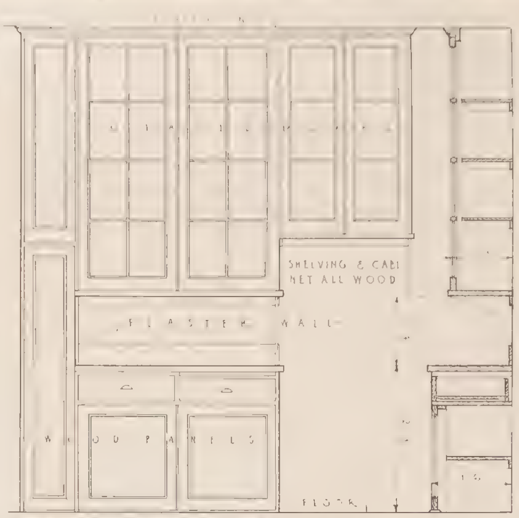




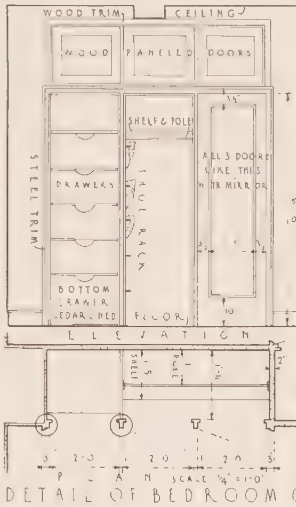
TYPICAL PLAN FOR SERVICE ROOMS
(FOR ? ROOM APT.) SCALE: 1/8" = 1'-0"


(PLASTER WALLS & CEILING)
CAST IRON TRIM, SASH HALL & STEEL BUCK & KALOMEIN DOOR
5 BLACK & GOLD MARBLE BASE
HOLLOW METAL DOOR STOCK MOULDING

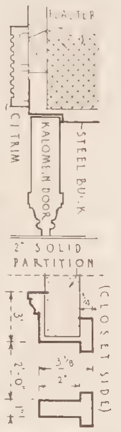
TYPICAL DOOR TREATMENT - 1ST FL LOBBY
DOOR JAMB DETAIL (1½"=1')



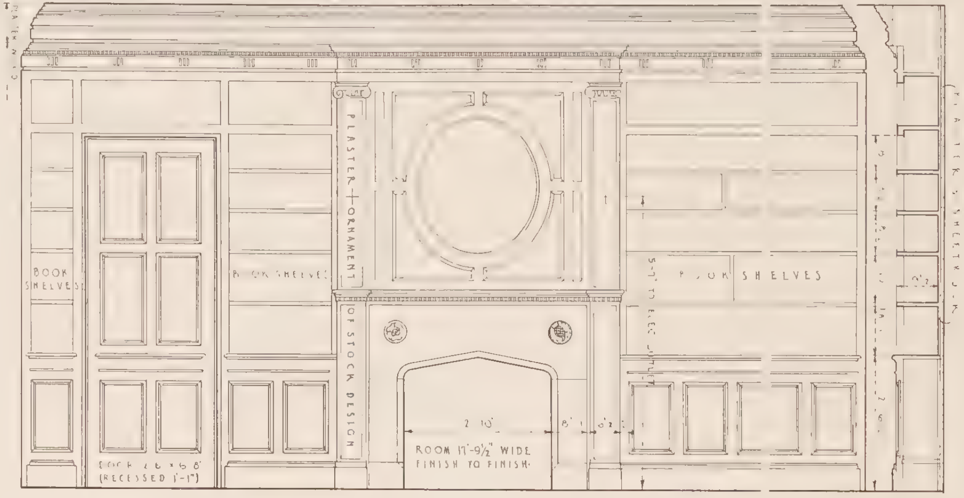
TYPICAL KITCHEN DRESSER (4 ROOM APARTMENT)
SCALE 3/8" = 1'0"



DETAIL OF BEDROOM CLOSET.

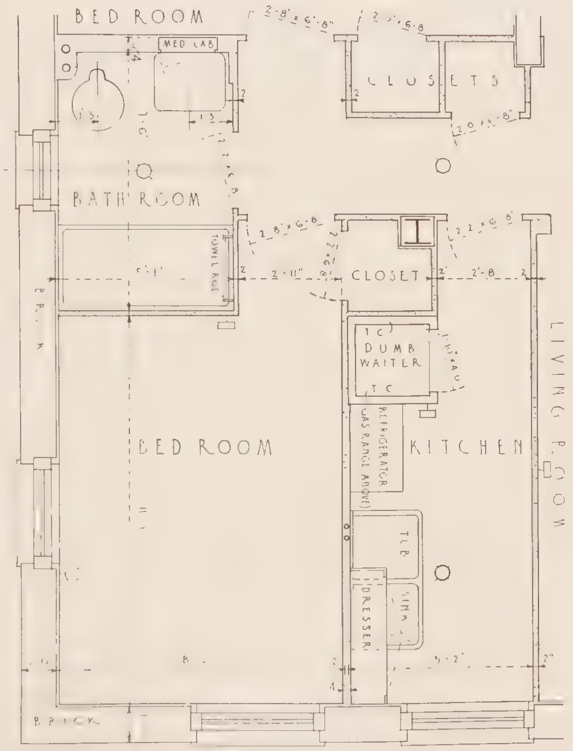


DETAIL OF PRESSED STEEL CLOS. BUCKS
SCALE 1½"=1'0"


BOOK SHELVES
PLASTER ORNAMENT OF STOCK DESIGN
ROOM 17'-9½" WIDE FINISH TO FINISH
DOOR 2'6" × 6'8" (RECESSED 1'-1")
PLASTER & SHEETROCK

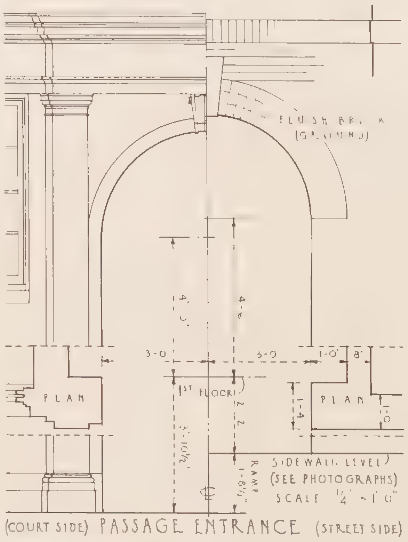
FIREPLACE-END IN LIVING ROOM OF APARTMENT "14-C"
SCALE: 3/8" = 1'-0" (SEE PHOTOGRAPH)

DETAILS OF APARTMENT HOUSE AT 430 EAST 57TH STREET, NEW YORK CITY
MC KIM, MEAD, & WHITE — ARCHITECTS.

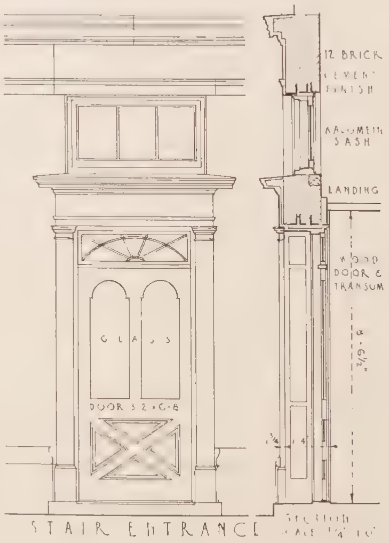


BRICK WALLS LEFT BLANK; SOLID PLASTER PARTITIONS SHOWN DOTTED

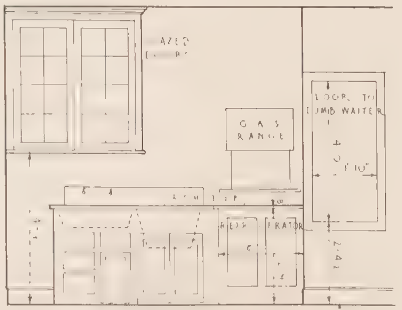
DETAIL OF PLANS SHOWING MINIMUM BATH & KITCHEN
PORTION OF APARTMENT — SEE ENTIRE PLAN
SCALE ¼" = 1'-0"



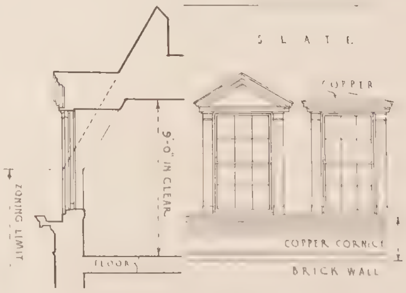
(COURT SIDE) PASSAGE ENTRANCE (STREET SIDE)



STAIR ENTRANCE SECTION SCALE ¼"=1'0"



ELEVATION OF KITCHEN SEE PLAN AT LEFT (¼"=1')



SEC THROUGH TOP FLOOR (1/8"=1') DORMERS

DETAILS OF APARTMENT HOUSE AT 250 EAST 105TH STREET, NEW YORK CITY — JAMES C. MACKENZIE, JR. ARCHITECT

Apartment-House Details
Drawn by Gerald K. Geerlings

NOTES

Apartment, 430 East 57th Street, New York City

(McKim, Mead & White, Architects)

The city lot hemmed in on three sides creates problems which have been overcome in this intelligent adaptation of the H plan—there is cross circulation in all apartments, no waste space, living-rooms have their longest dimension running parallel with the outside wall, and for the best class of co-operative apartments this offers a prototype for economy of space and decoration. The salient features adaptable to this type of building are:

Lobby.—To conform with fire-proof requirements the trim of the doors is of cast iron and painted; detail is fine in scale and could pass for wood in appearance.

Living-rooms.—Structural beams have been placed so they centre on piers between windows and false ones built up at other corresponding locations, thus simplifying the problem of interior decoration. Fireplace fronts are of cast cement but wood-like in scale and when painted appear like old Colonial ones after many coats of paint.

Baths.—Maids' baths are reduced to a minimum, accommodating only a small tub, 29″ wide, 43½″ long, and 19¼″ high. Water-closets average 22½″ from finish wall to front of seat, flush valves accounting for this small dimension. The lavatories are placed in the maids' rooms and are 18″ in depth and 21″ wide. In the master bathrooms, lavatories are 22″ deep and 27″ wide, at a height of 31″. Tubs are 5′ 6″ x 2′ 6″.

Kitchens and Pantries.—Dressers divided into upper and lower sections as shown on drawing, lower part being 2′ 9″ high above floor and intermediate space 1′ 4″ high; upper portion extends from there to ceiling. Floors of cement in all service rooms.

Apartment, 250 East 105th Street, New York City

(James C. Mackenzie, Jr., Architect)

This building, erected for the Union Settlement Association as a modest income producer to help pay off the annual deficit, is most ingeniously planned for the low-rent, walk-up type of apartment-house. One of the outstanding achievements is that each apartment, except the one-room suite, has cross ventilation from two sides and in some cases three. The building as shown is but half of the entire scheme. The difficulty of preserving a large central court as a playground and yet obtaining the number of rooms desired resulted in extremely tight planning. Halls and stairs have been whittled down to an absolute minimum. Interior partitions, except at the stairs, are of two-inch solid plaster, which gained enough in the width of the building to preserve 7′ at one side for a court, which in turn became wide enough for fire-escapes under the New York Code.

The rents average $19 per room and were intended primarily for welfare workers, clergymen, librarians, teachers, etc. The building cost about 54 cents per cubic foot.

General features adaptable to other buildings of this character are:

First Floor.—Entrance from several sources in court off street, instead of more usual type of large lobby which causes loss of space on first floor. Upper floors do not have central corridor, which would prevent cross circulation.

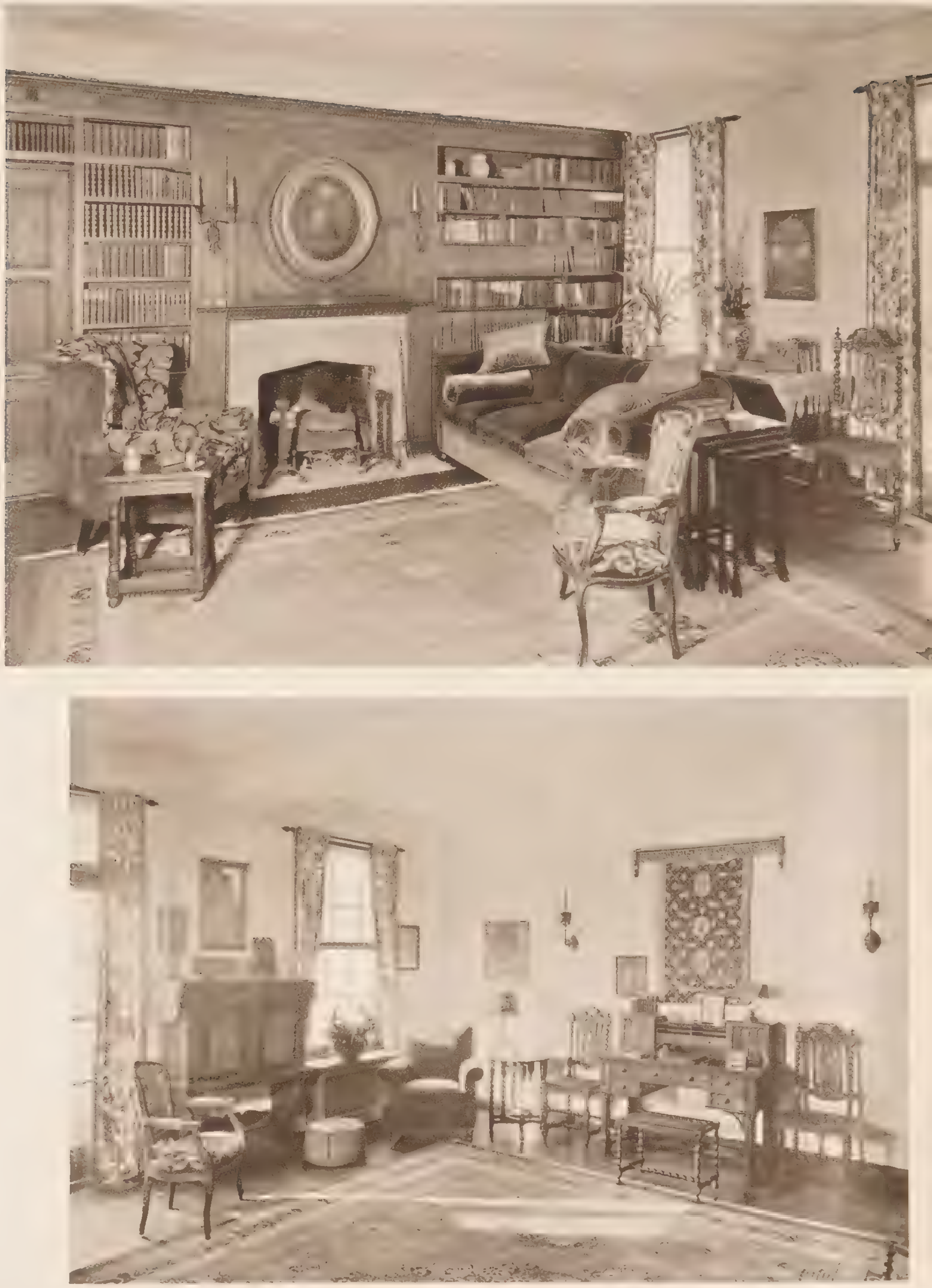
Interior Partitions.—2″ solid plaster on metal lath fastened to light channels. These are found to be more nearly sound-proof than the hollow tile.

Windows.—In court the windows lighting the stairs would have made an unpleasant staggering effect and to overcome this the landings occur at the meeting rail, and in the case of the first floor at the transom of the door. In order to obtain the required amount of light for the second flight of stairs it was necessary to have the transom above the door. Being in scale with the remainder of the architecture, it is hardly objectionable (see drawing).

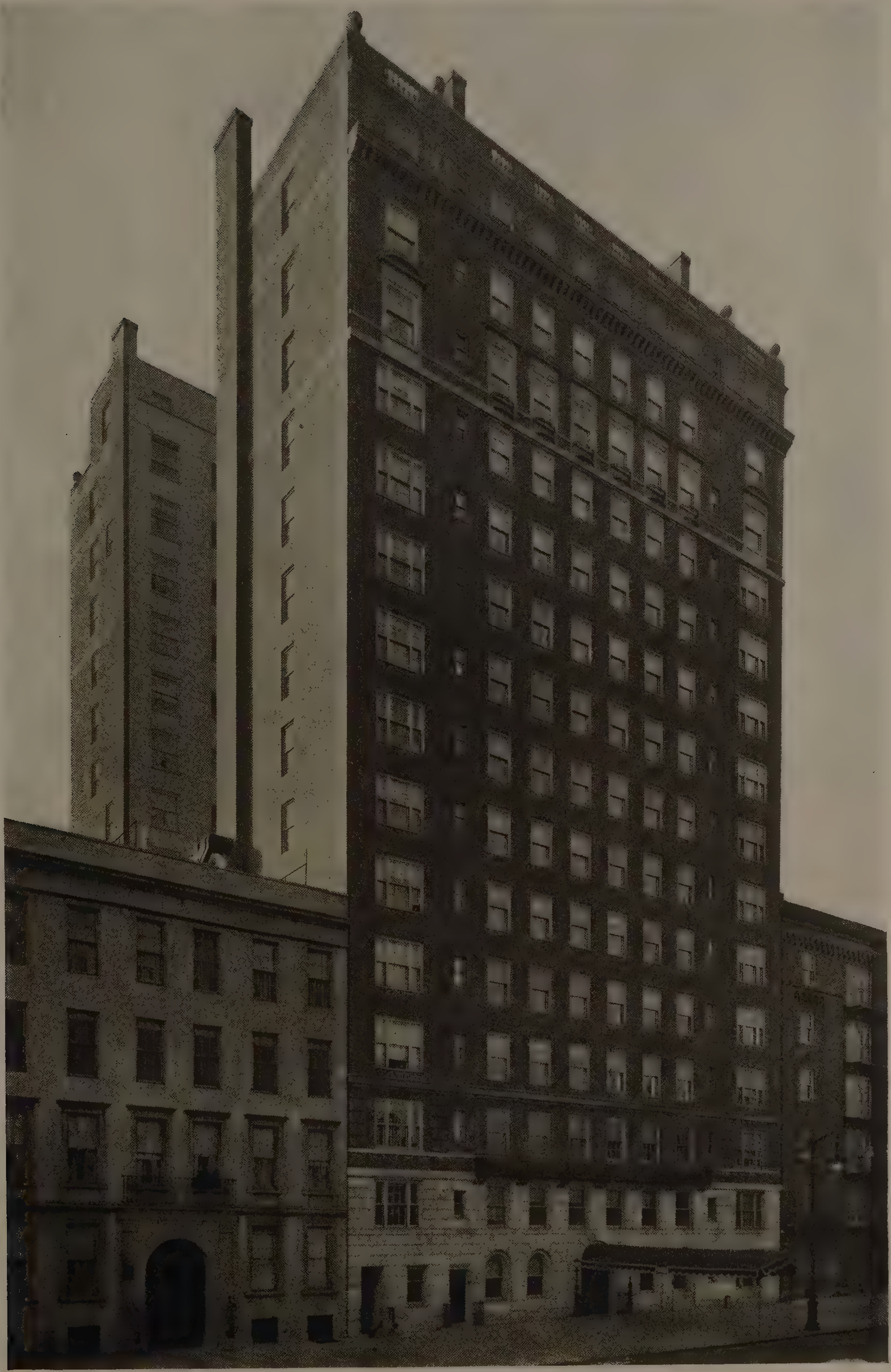
Zoning Limit.—The height permitted by law intersected half way between floor and ceiling of the top floor and offered a problem in design. It was solved by a form of mansard roof and dormers in a manner which makes the slate roof appear more like a continuous pitch than a broken one, and at the same time makes the top floor look less insurmountable than if the cornice had been at the zone limit with a series of dormers interrupting it.

Kitchen.—All adjuncts on one side of room; gas-range above refrigerator and insulated. Refrigerator and sink-top of ash, 1⅛″ thick and 2′ 9″ above floor.

Doors.—To closets, 2′ wide; to baths and kitchens, 2′ 2″; to living-rooms, etc., 2′ 8″.

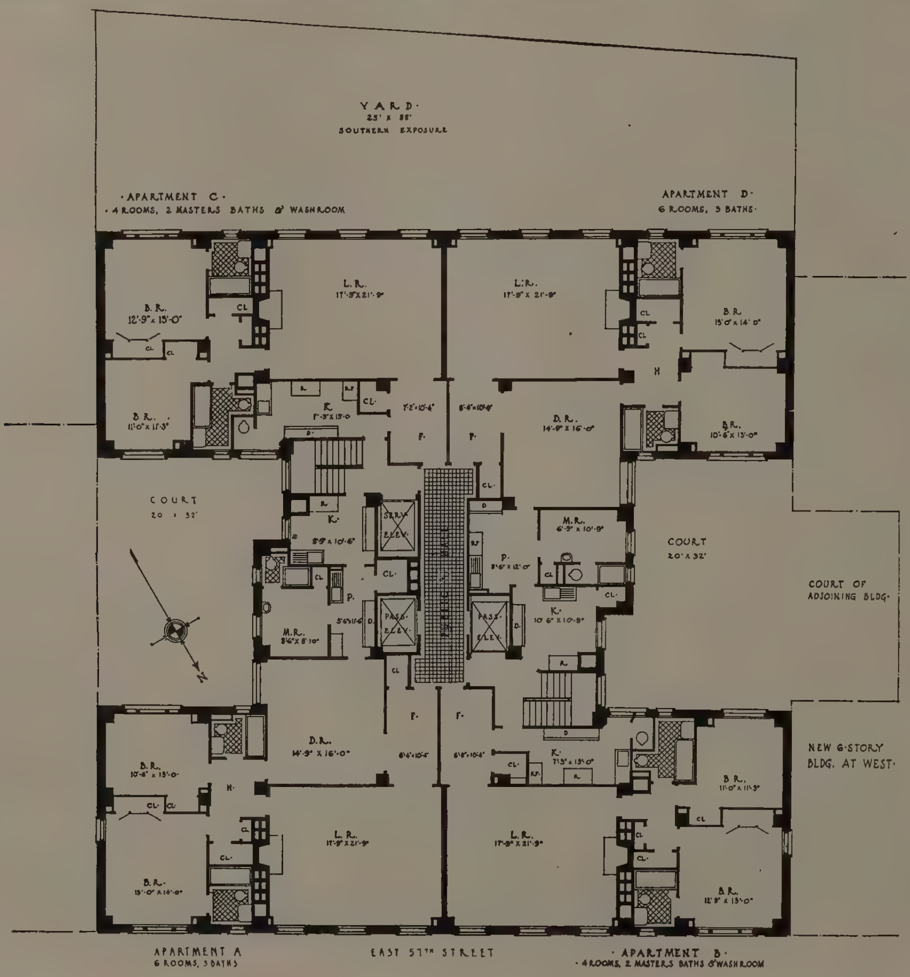


Apartment, 430 East 57th Street, New York City McKim, Mead & White, Archit



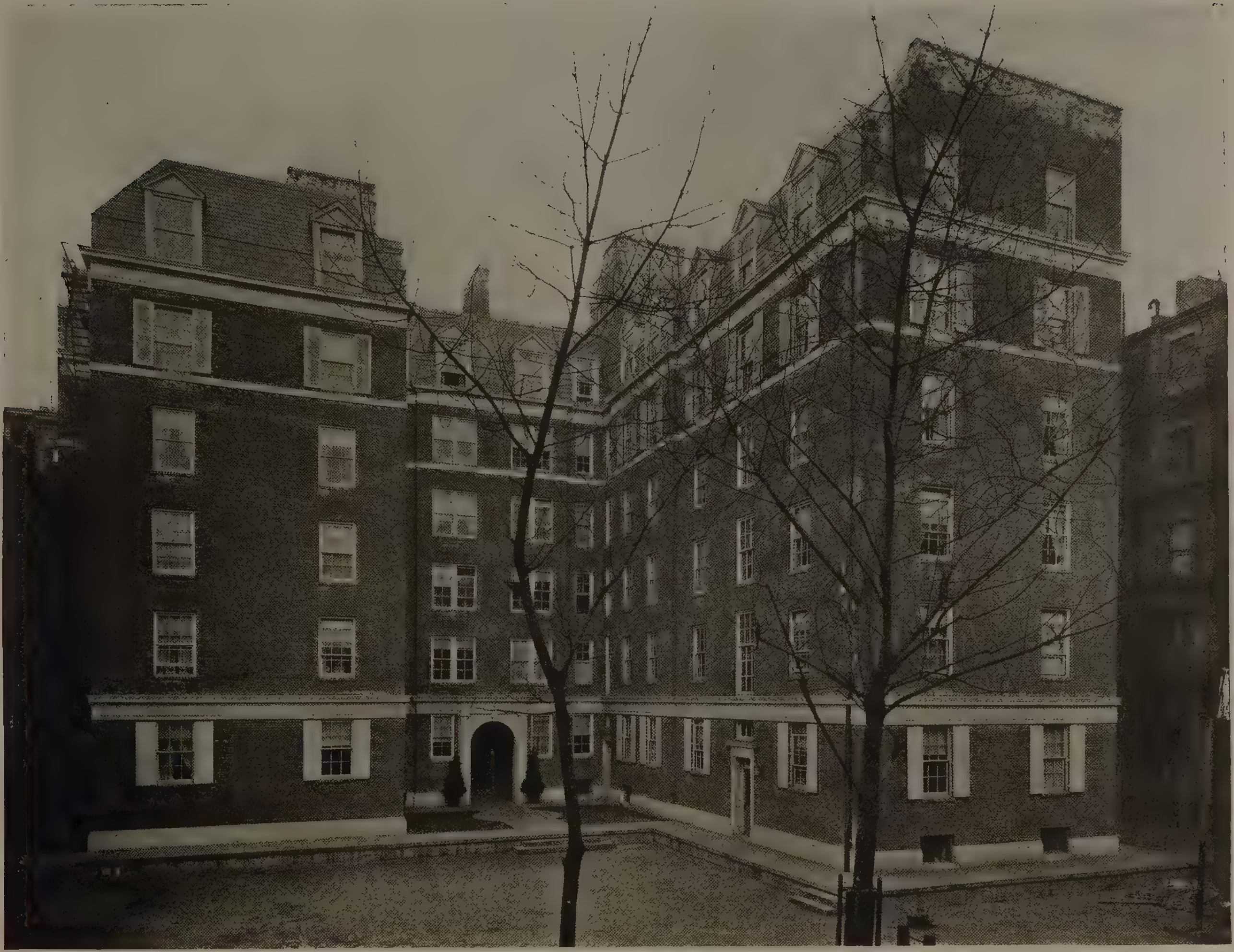
Apartment, 430 East 57th Street, New York City

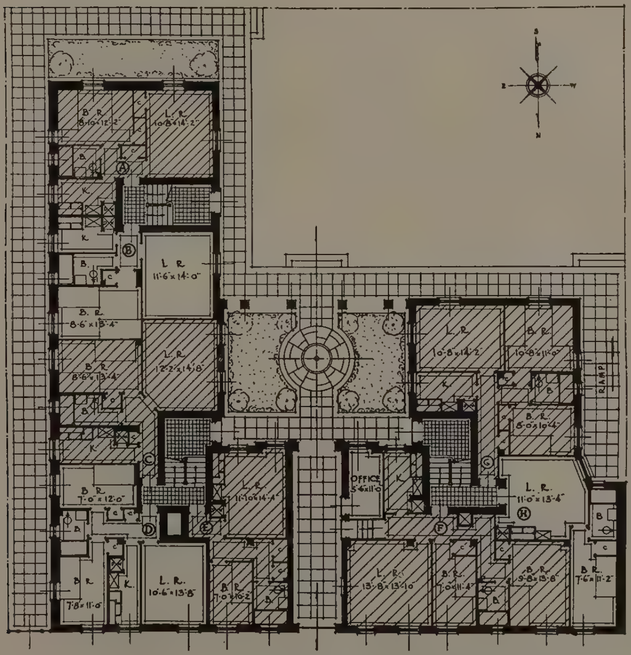
McKim, Mead & White, Architects

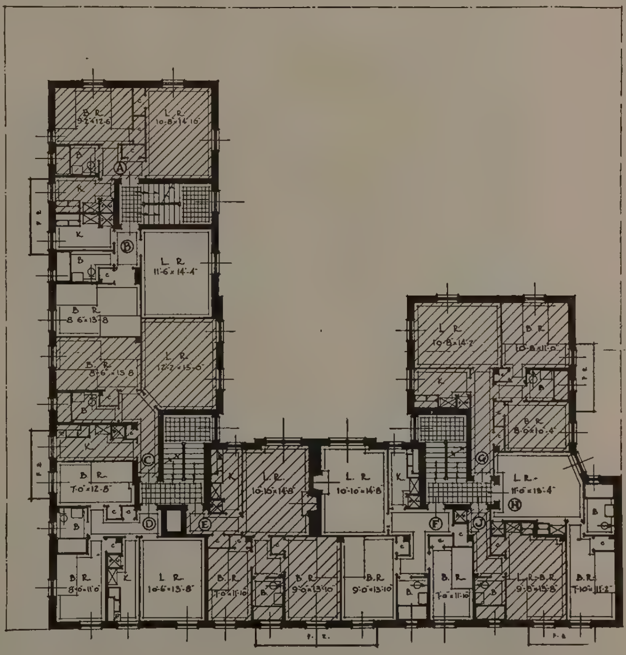


Apartment,
430 E. 57th St.
New York
City

McKim, Mead
& White,
Architects

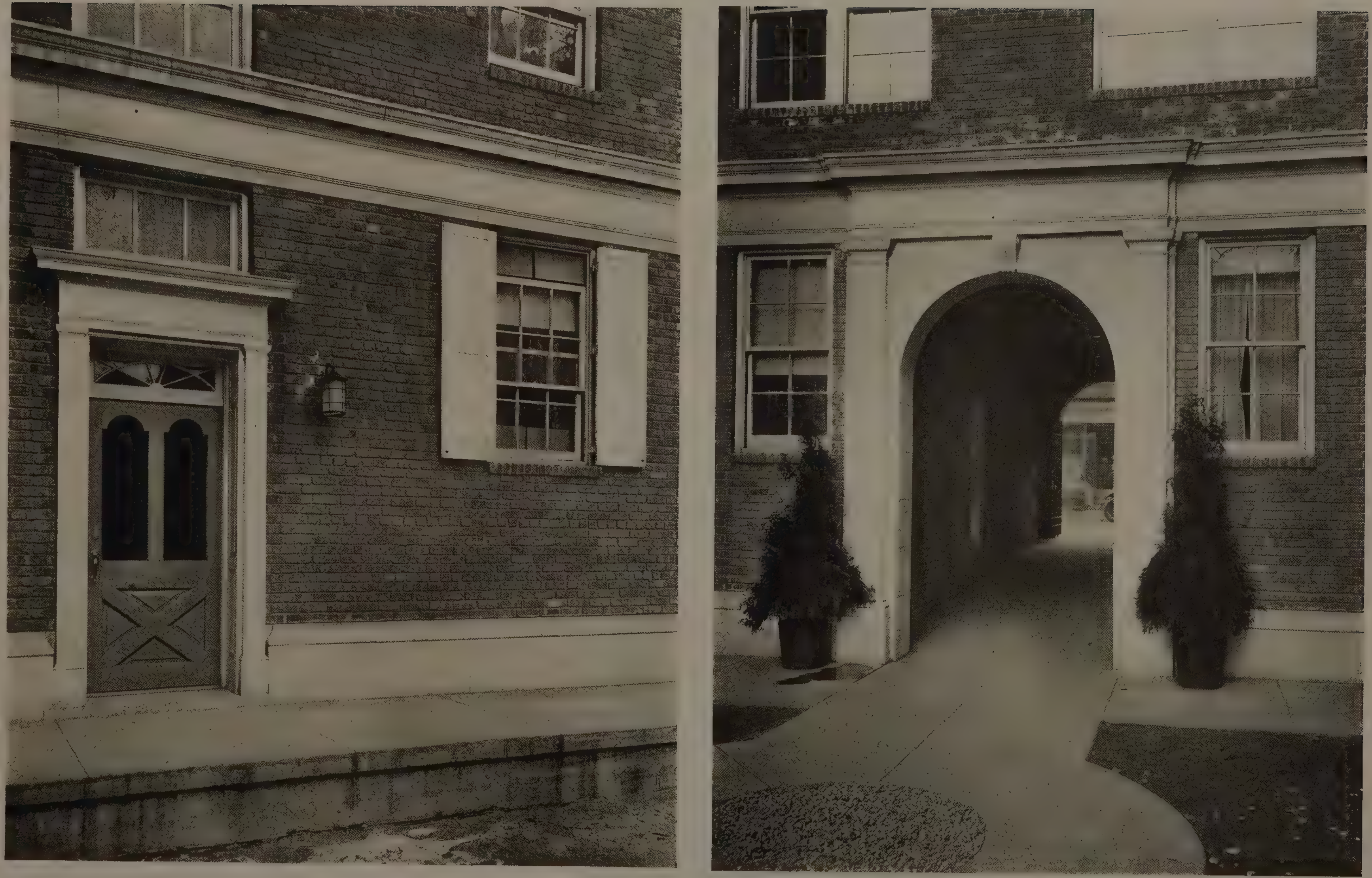






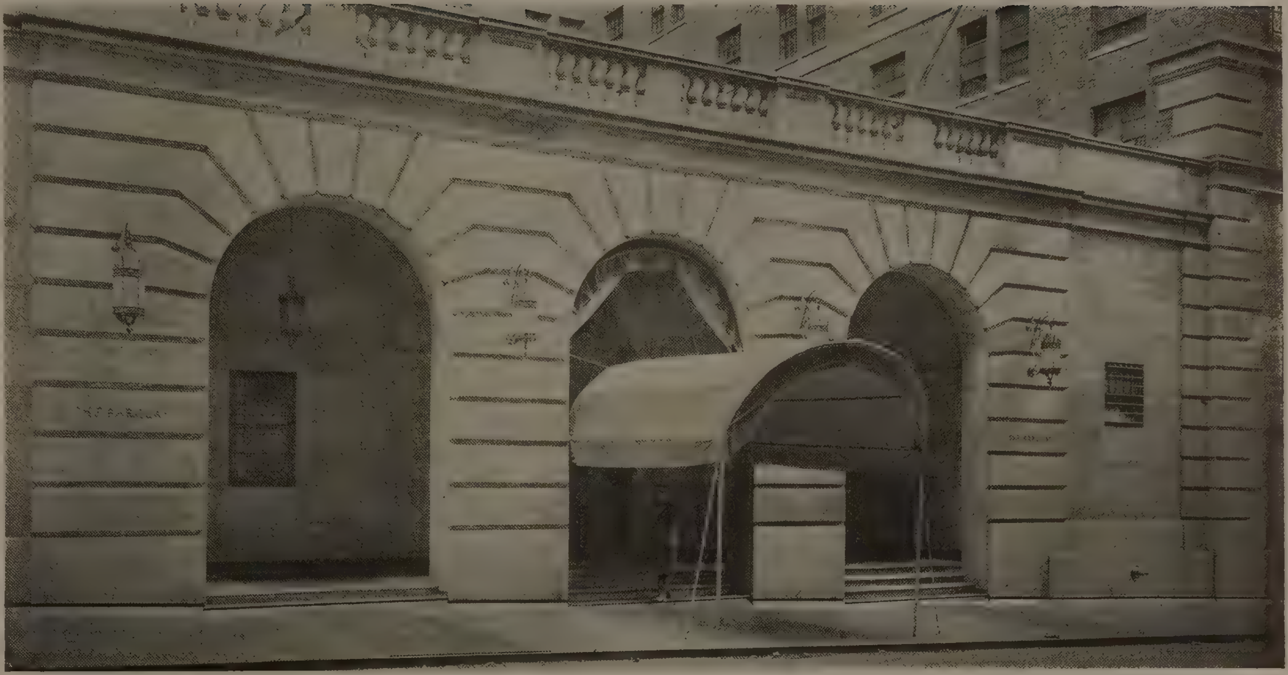
Apartment, 250 East 105th Street, New York City

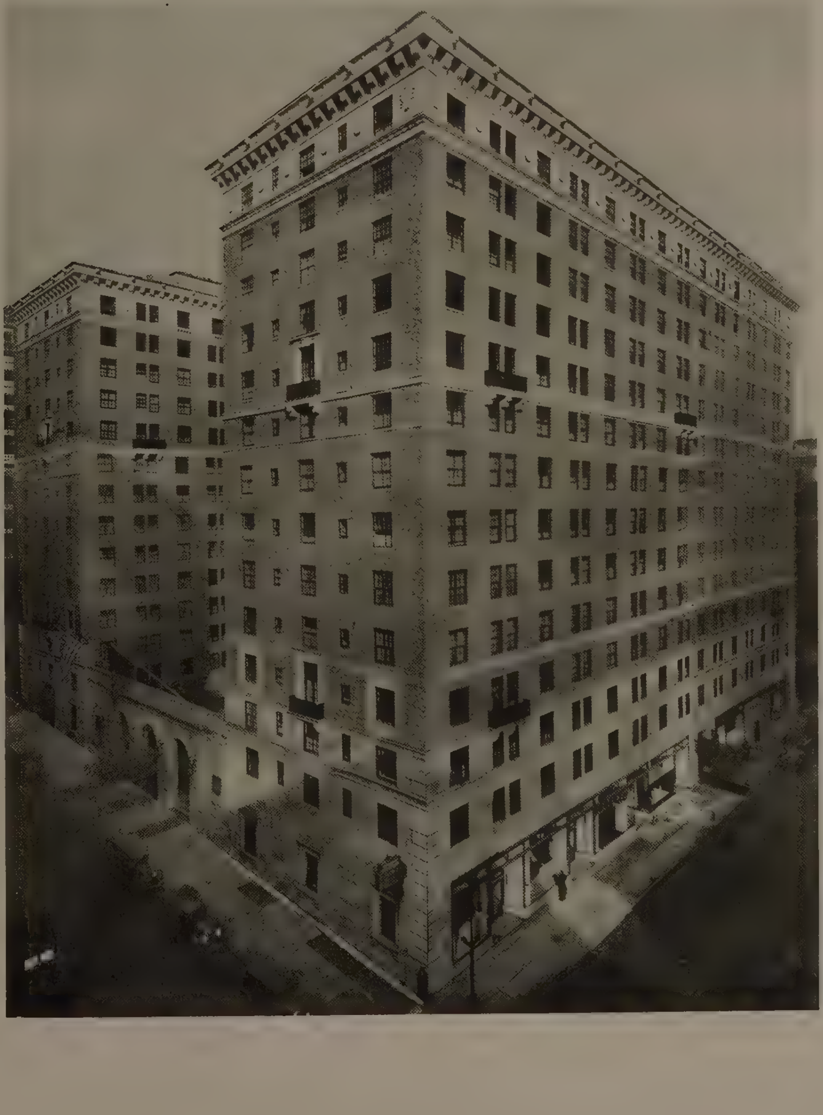
JAMES C. MACKENZIE, JR., ARCHITECT



Apartment, 250 East 105th Street, New York City

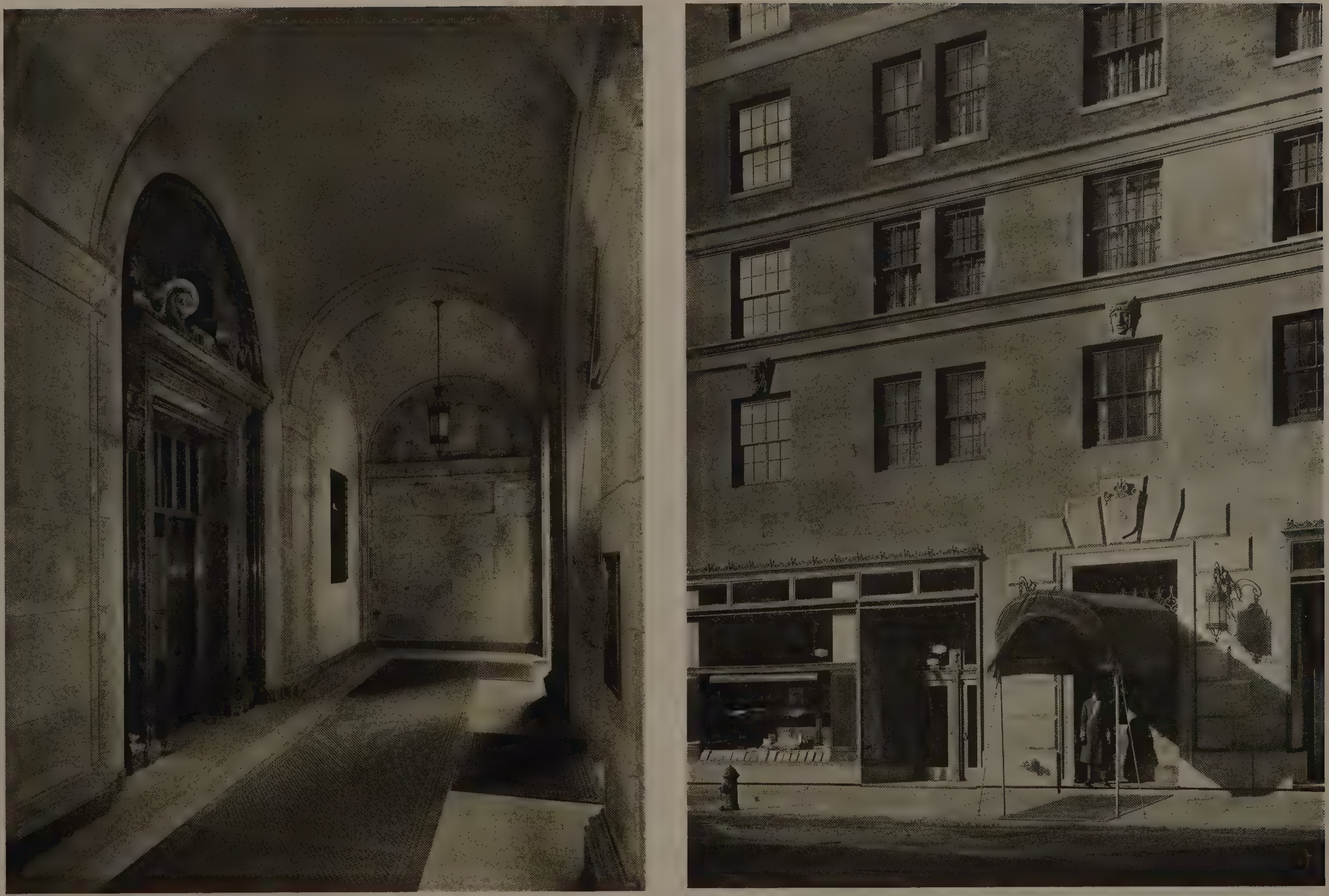
James C. Mackenzie, Jr., Architect



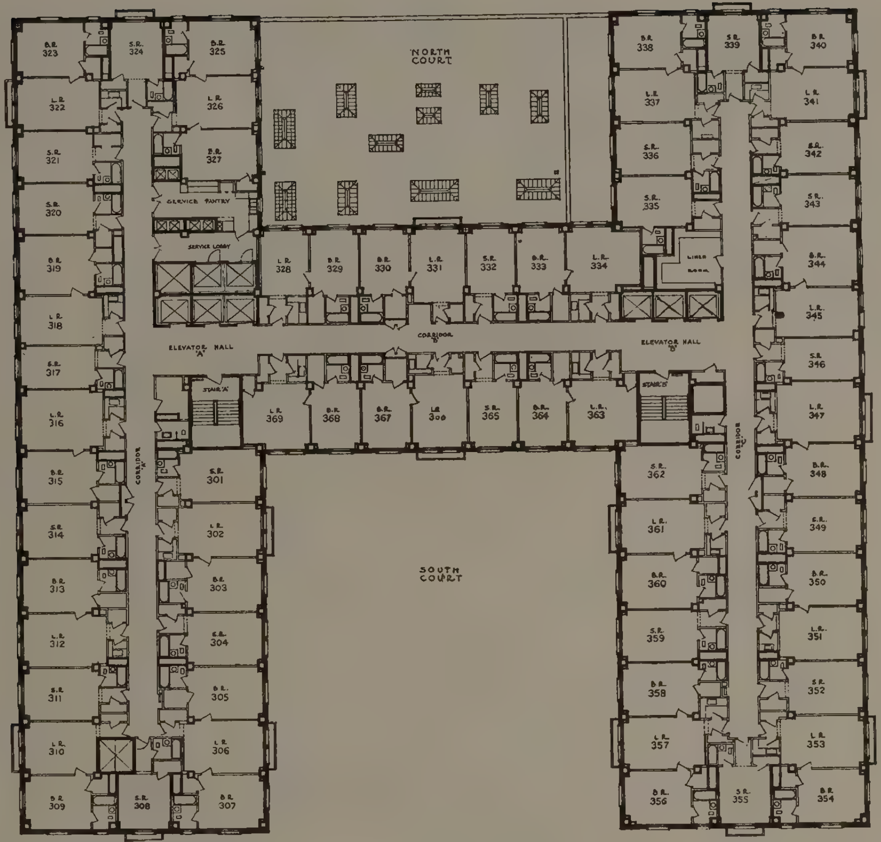


The Barclay,
a Residential
Hotel,
New York

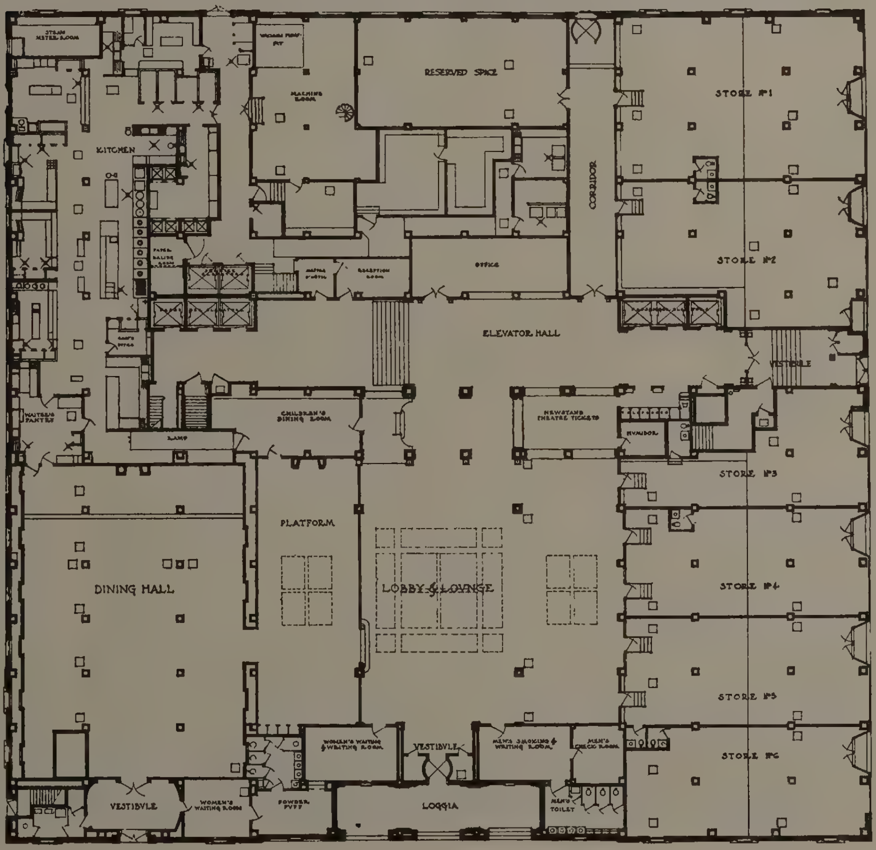
CROSS & CROSS,
ARCHITECTS



The Barclay, a Residential Hotel, New York · cross & cross, architects



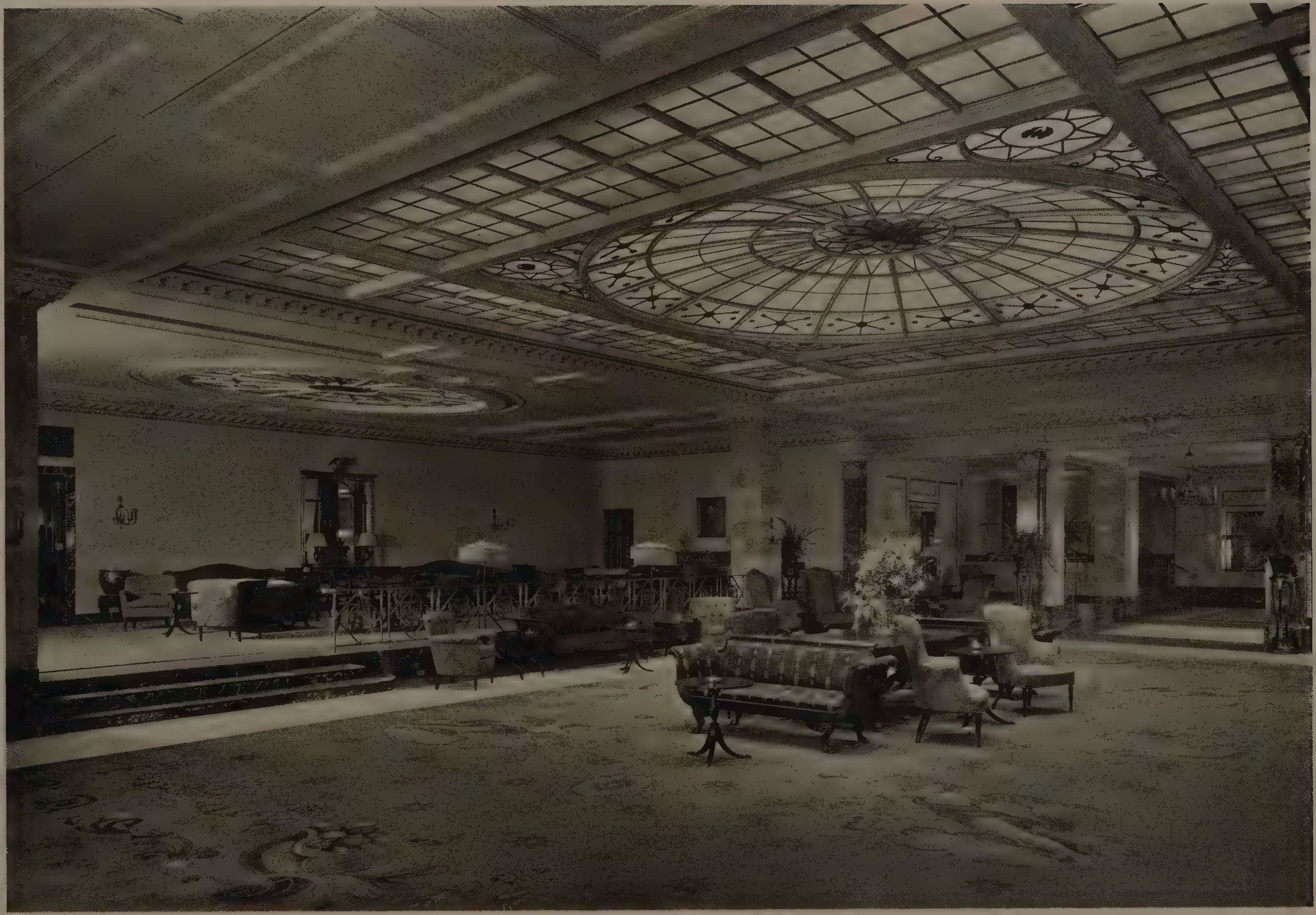
Typical Floor Plan



First-Floor Plan

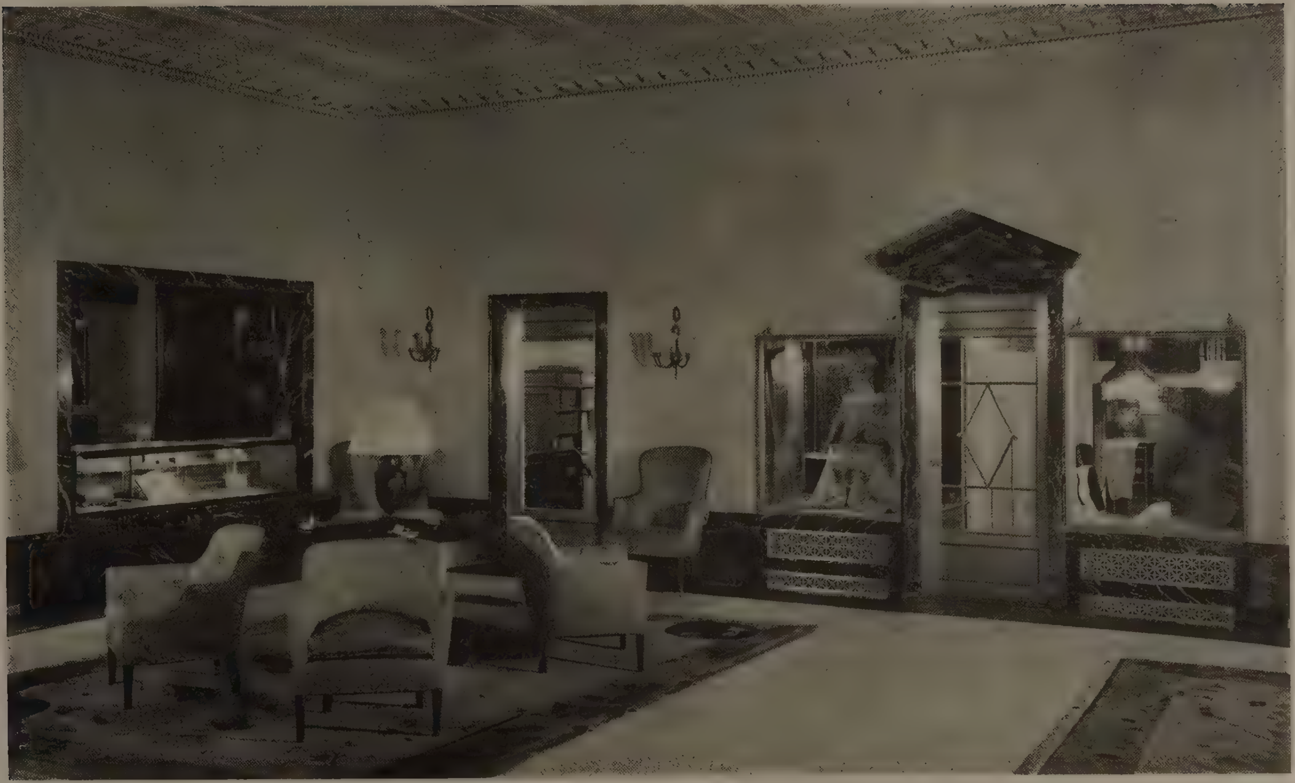
The Barclay, a Residential Hotel, New York

Cross & Cross, Architects

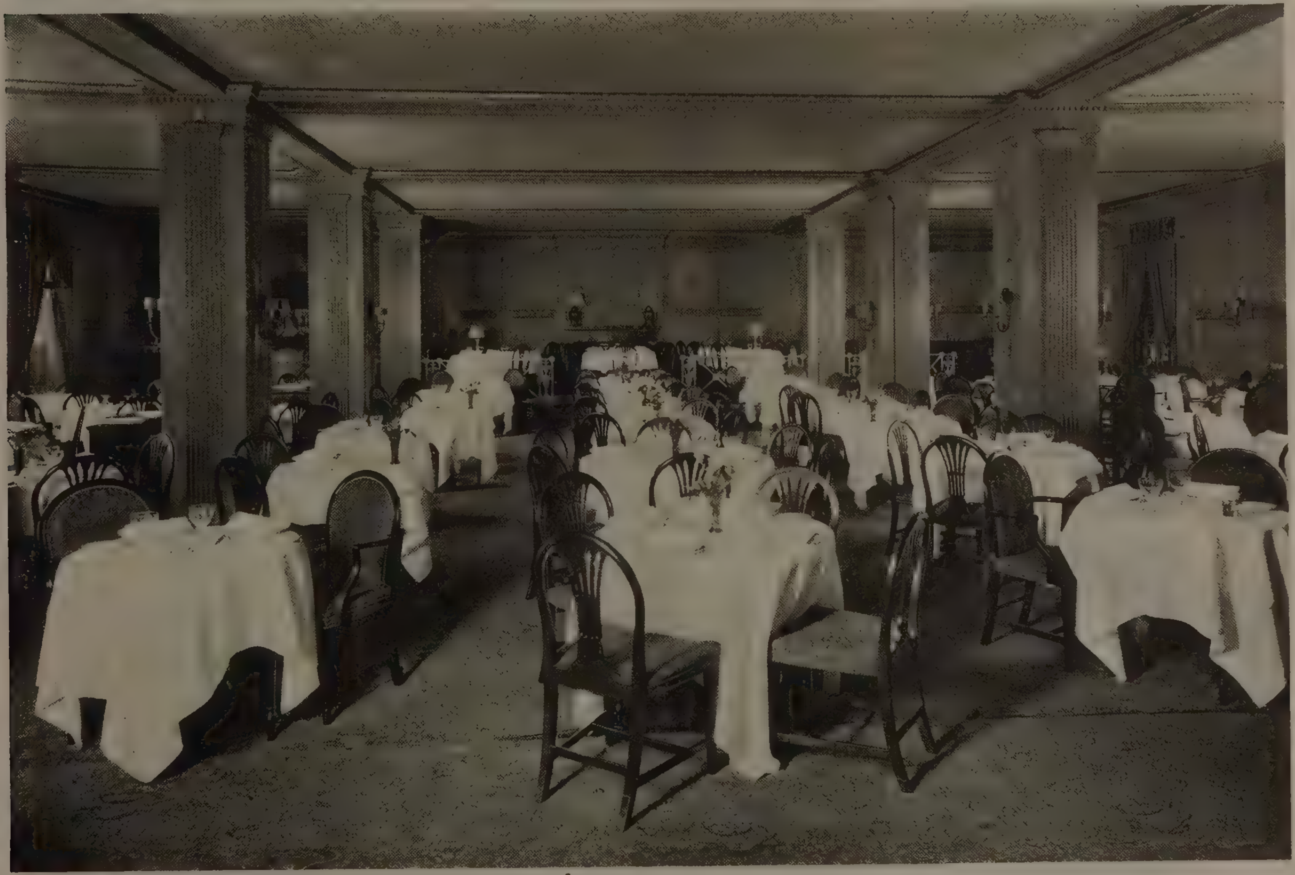


The Barclay, a Residential Hotel, New York

cross & cross, architects

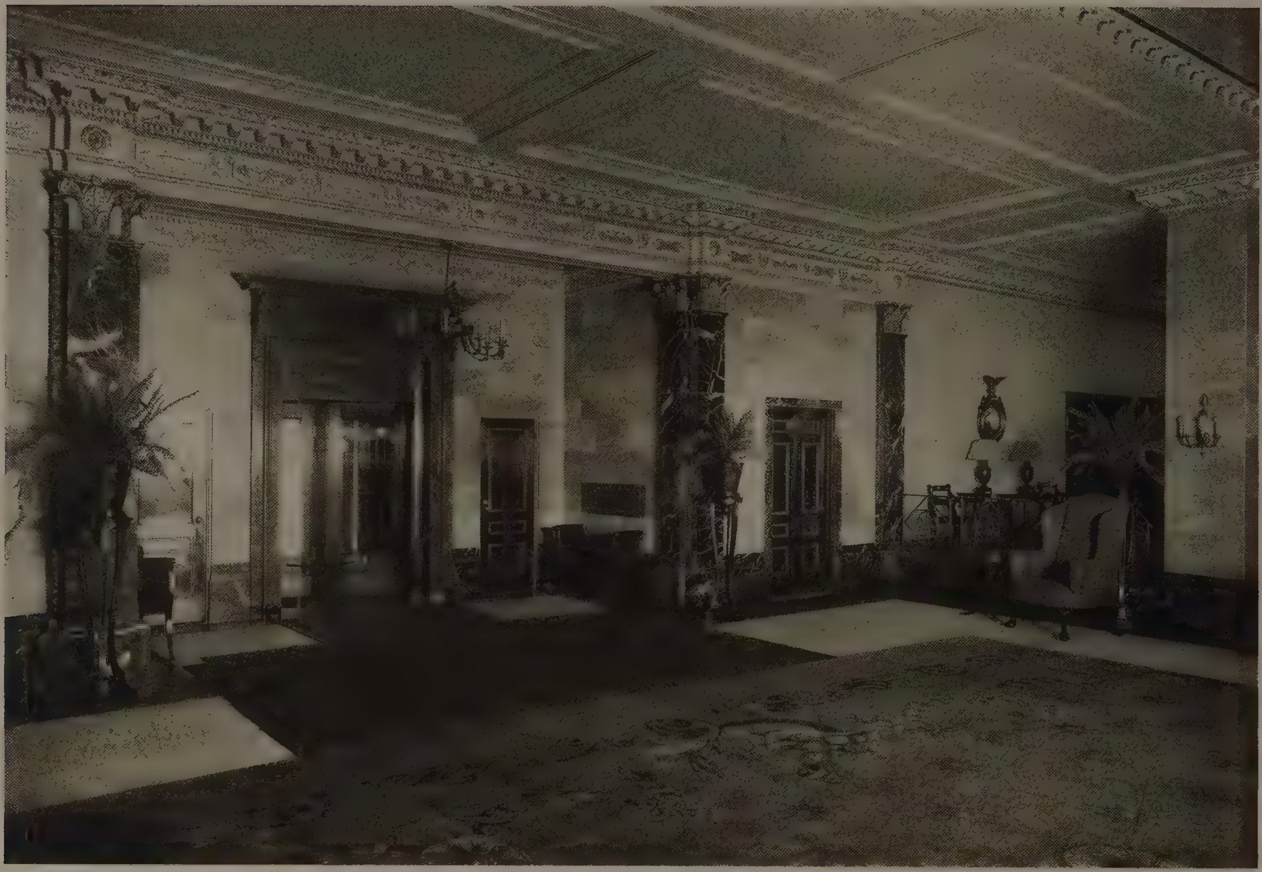


Lobby and Stores

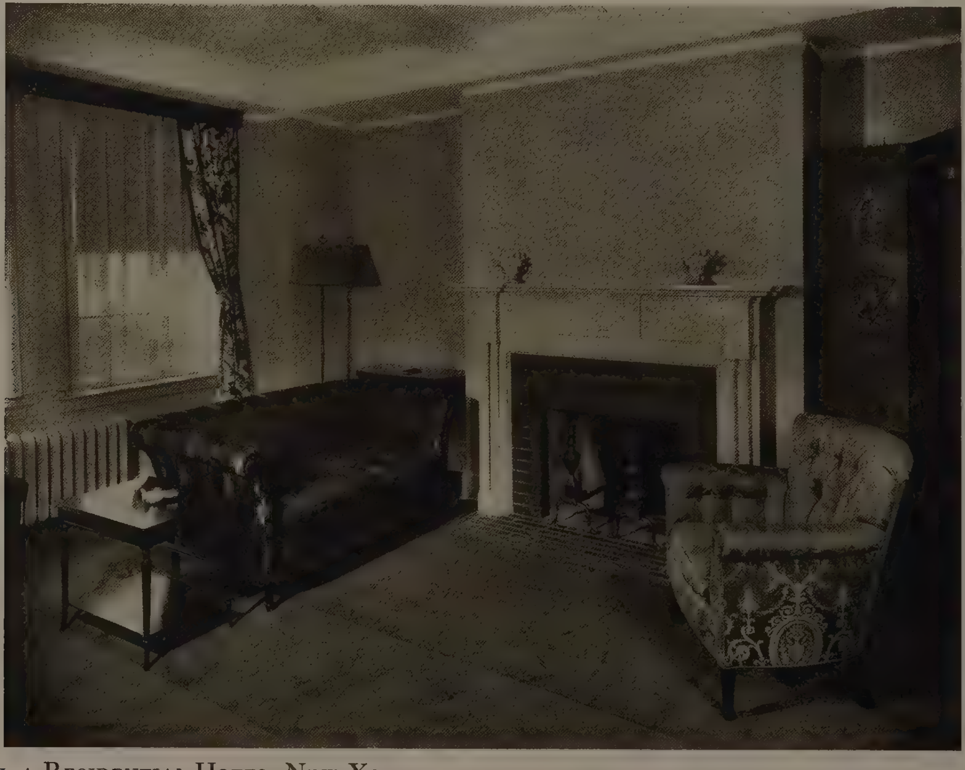


THE BARCLAY, A RESIDENTIAL HOTEL, NEW YORK

CROSS & CROSS, ARCHITECTS



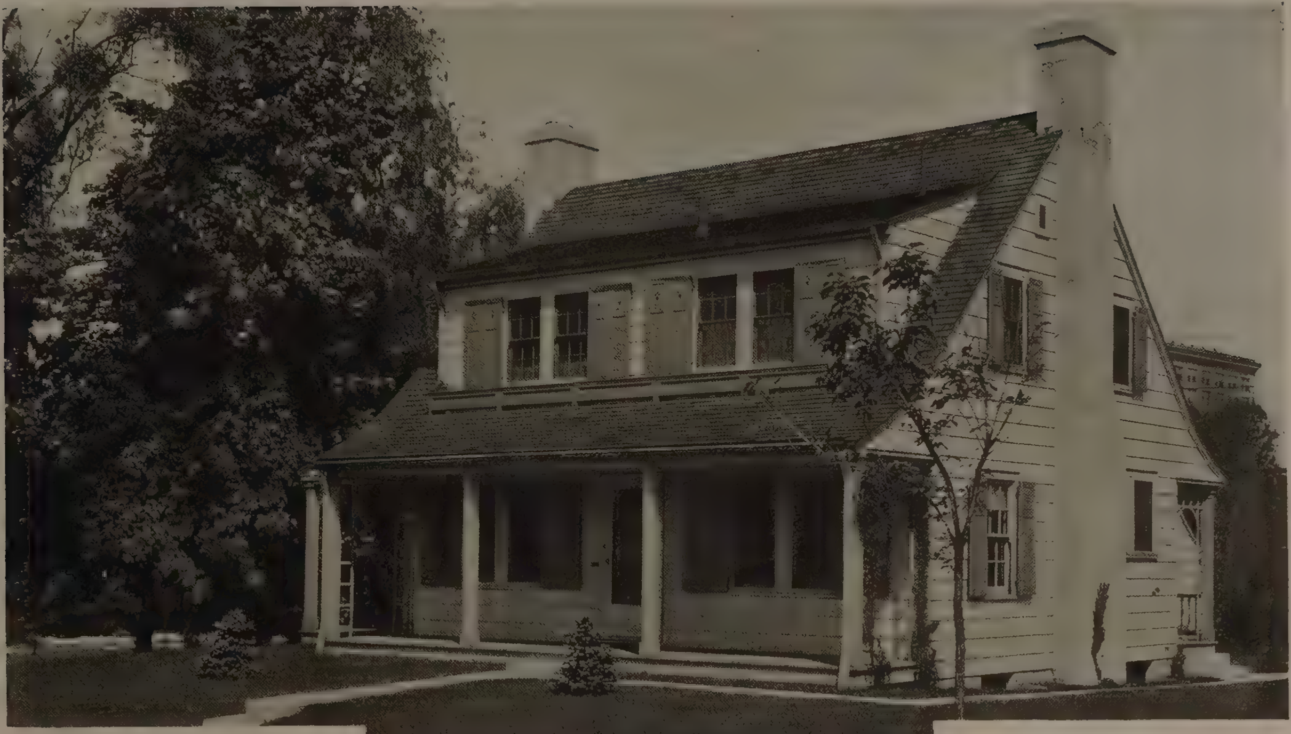
Entrance and Lobby

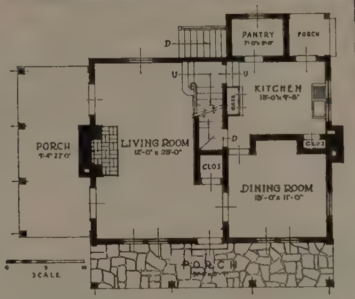


A Typical Living-Room

The Barclay, a Residential Hotel, New York

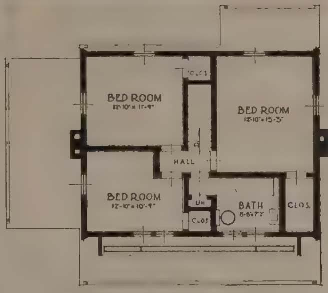
cross & cross, architects

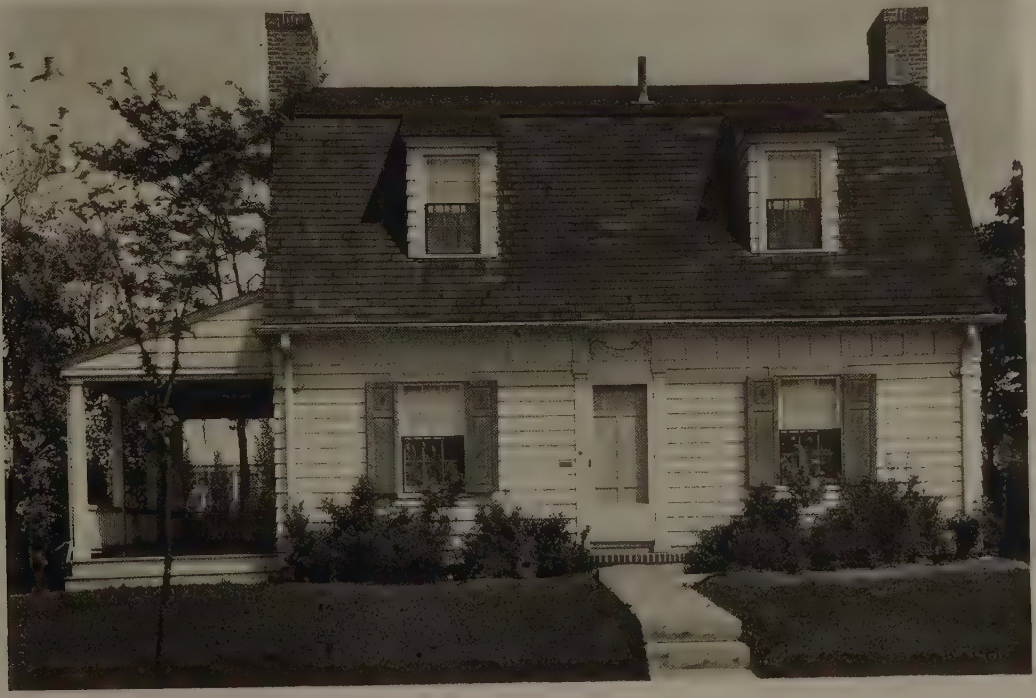


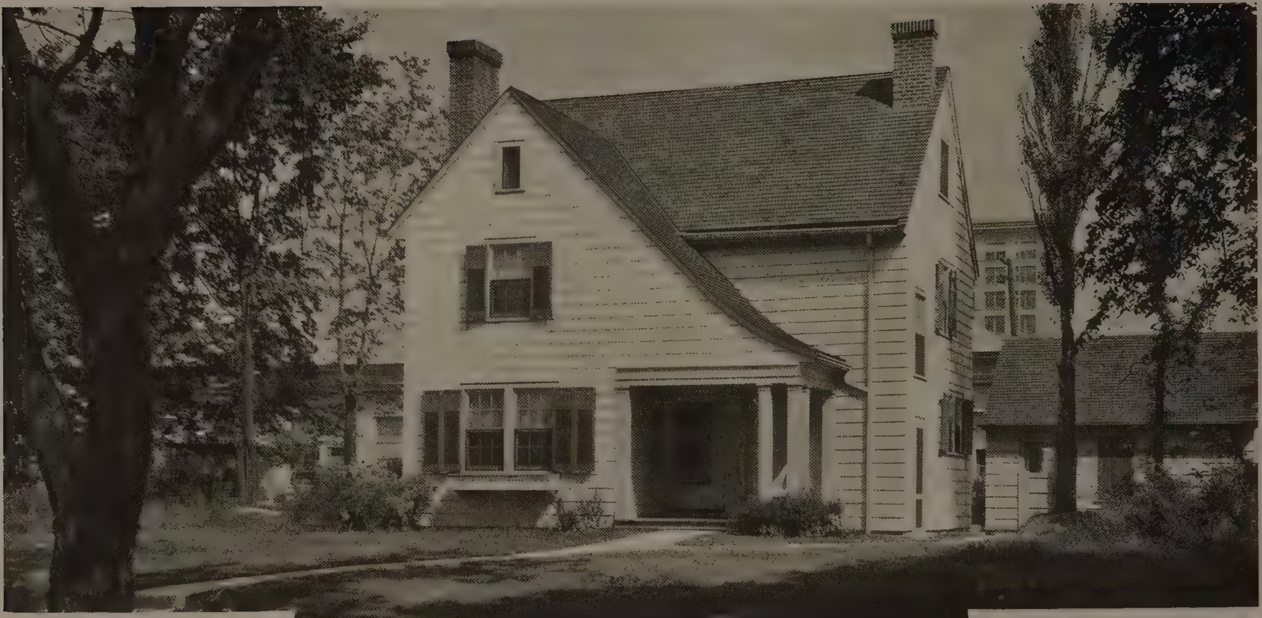


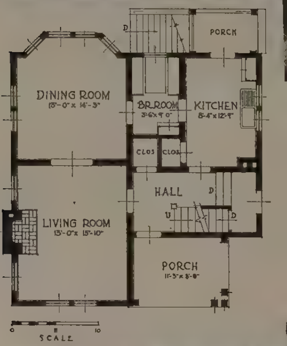
Two Houses from the Same Floor Plans
Rubicon Place, Dayton, Ohio

CHARLES F. CELLARIUS, ARCHITECT



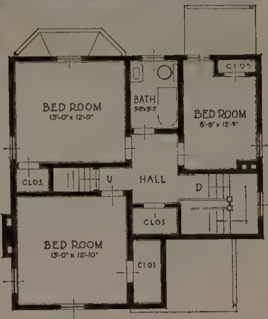


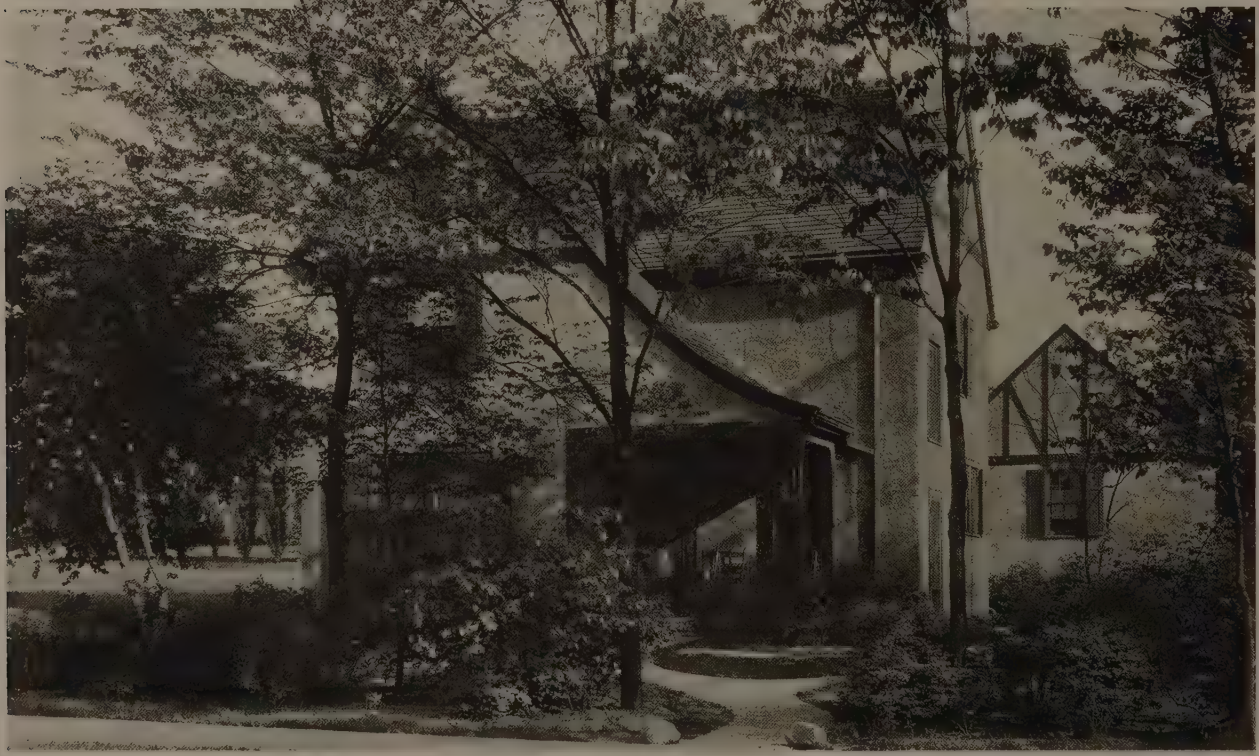


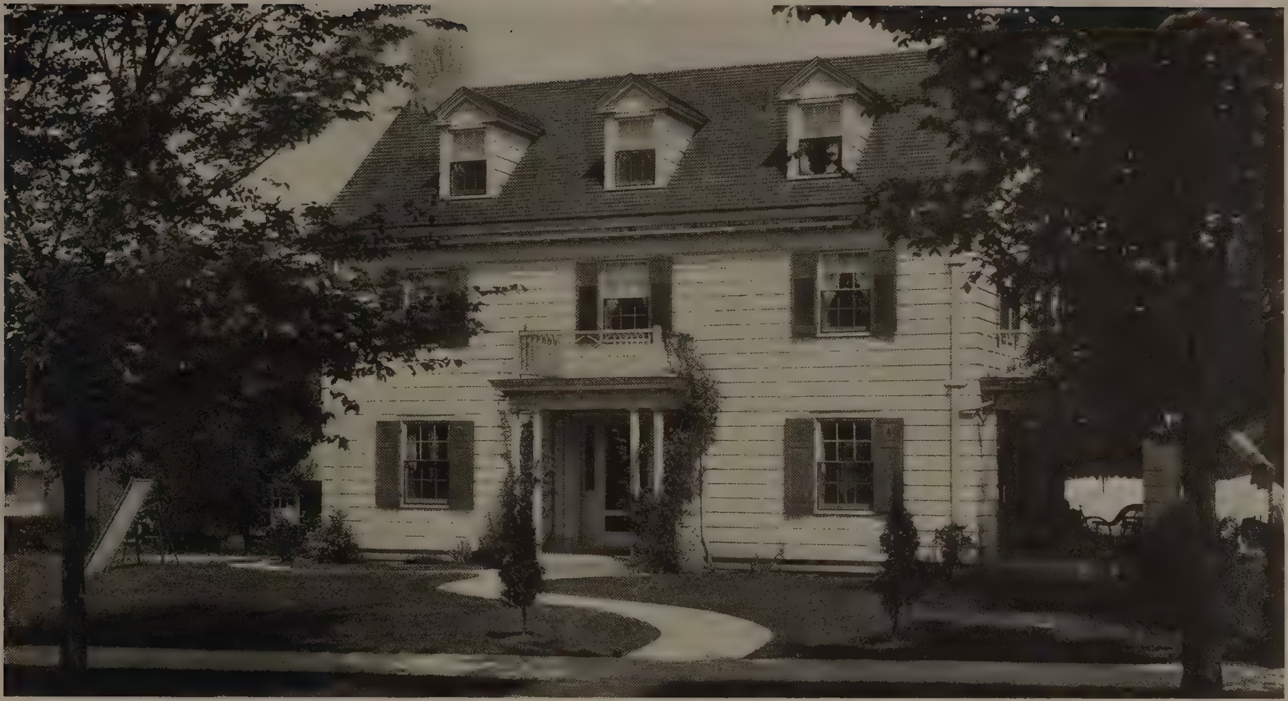


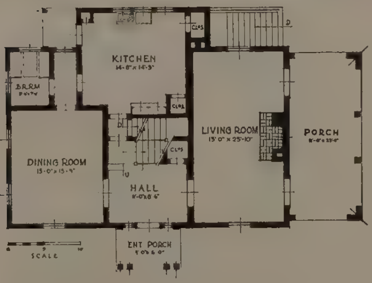
Two Houses from the Same Floor Plans
Rubicon Place, Dayton, Ohio

Charles F. Cellarius, Architect



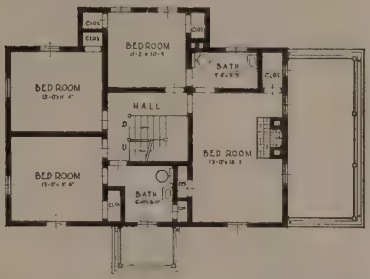


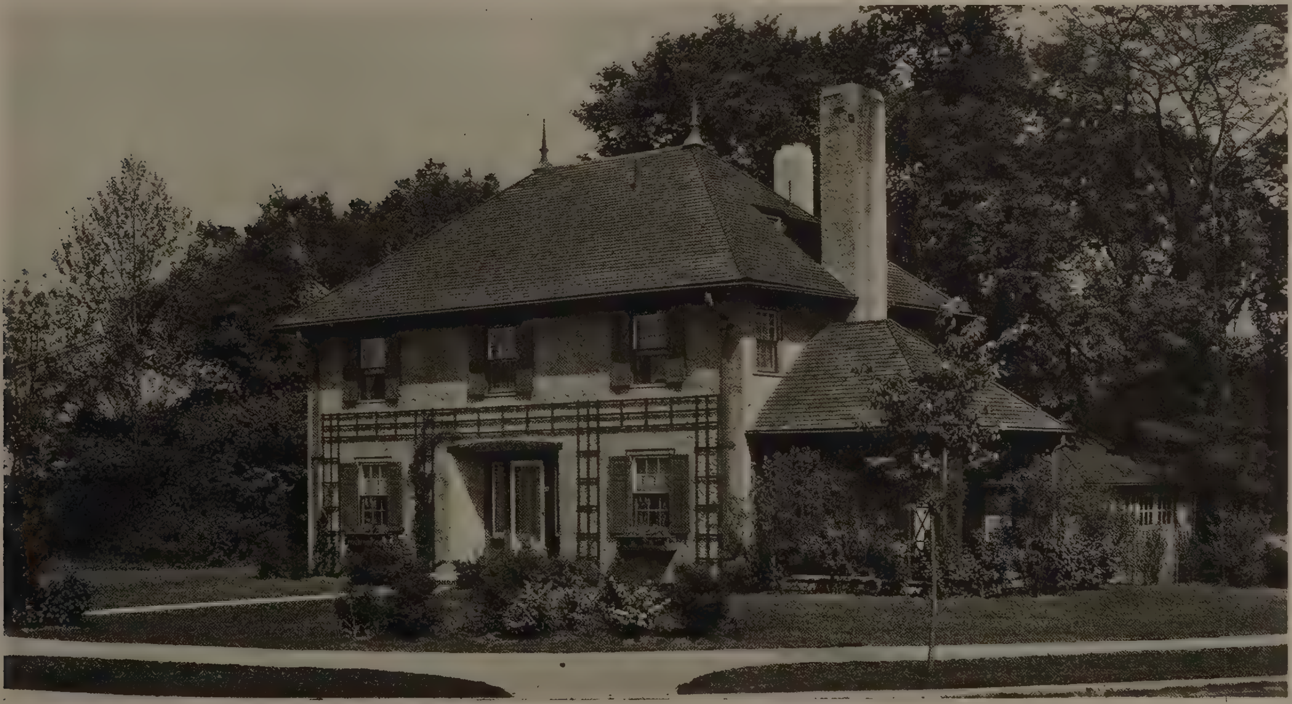


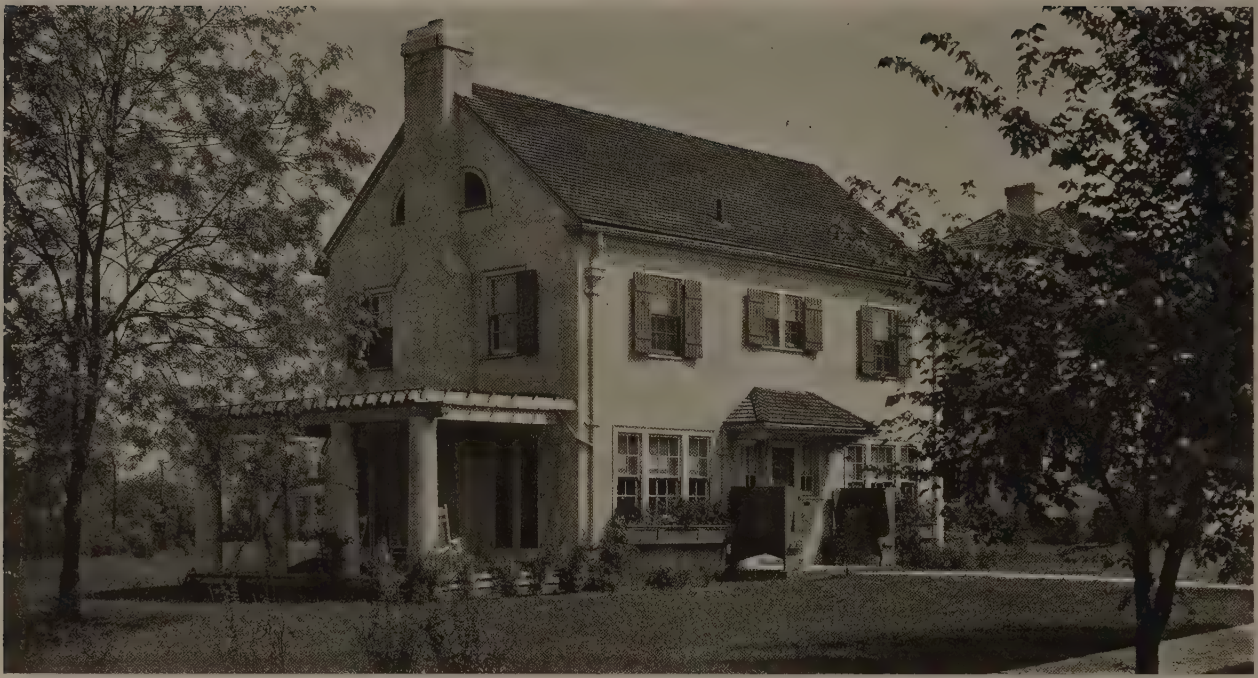


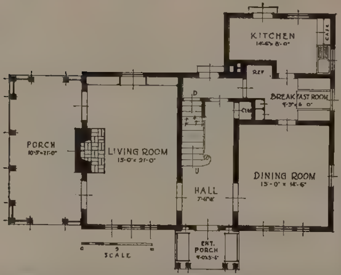
Two Houses from the Same
Floor Plans
Rubicon Place, Dayton, Ohio

CHARLES F. CELLARIUS, ARCHITECT



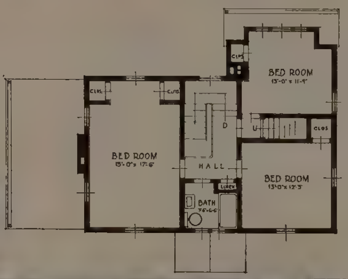


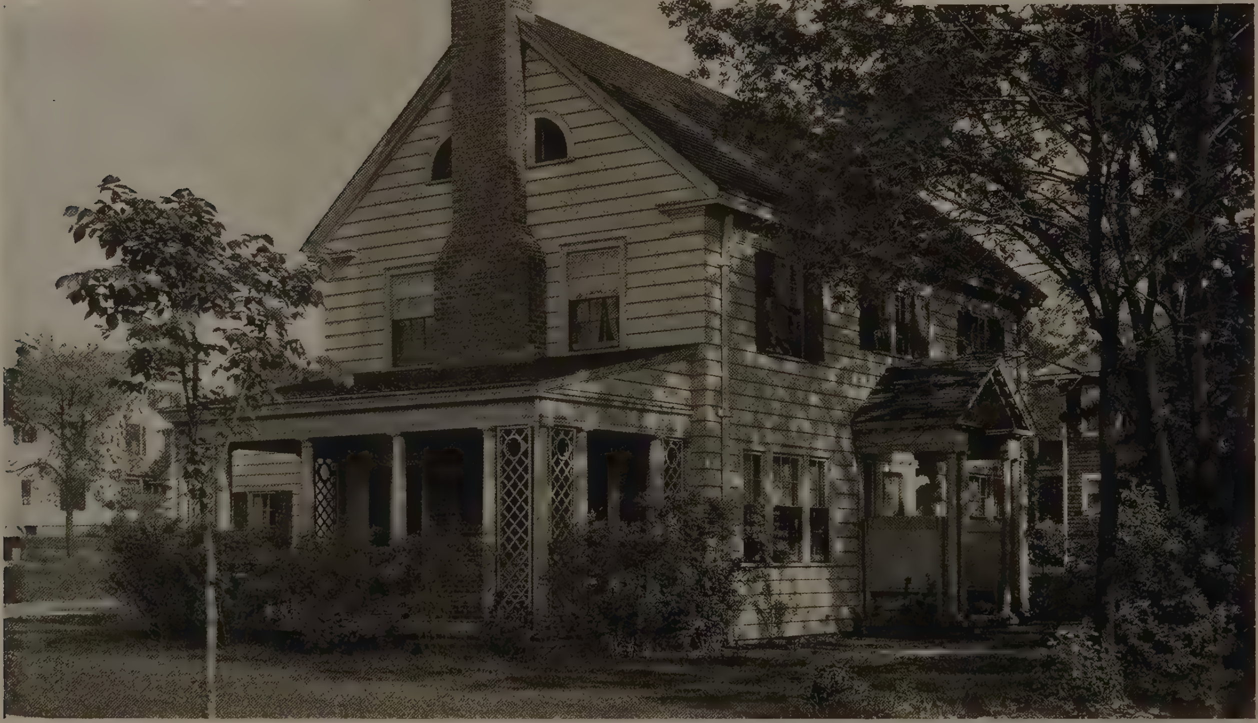


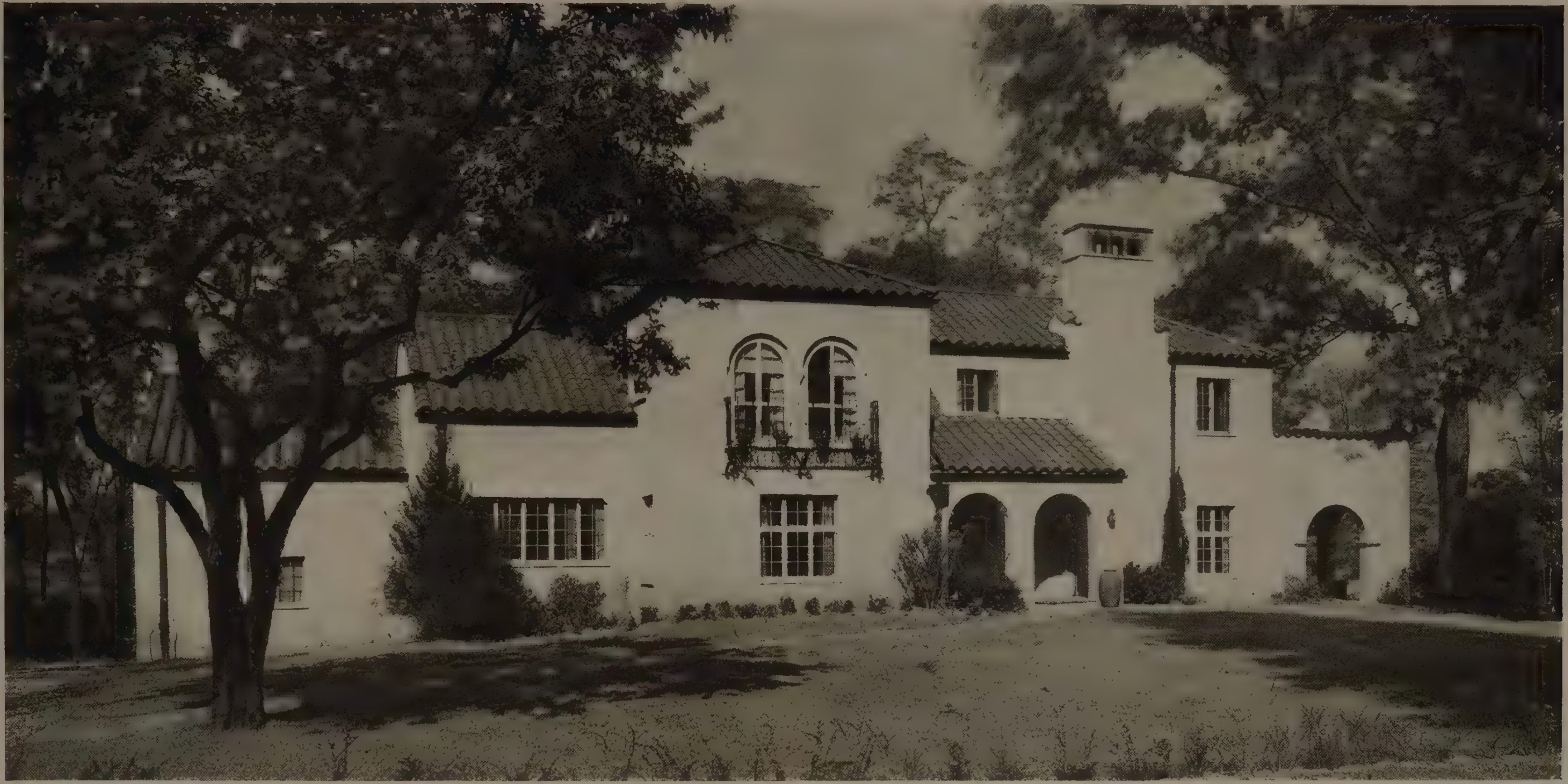


Two Houses from the Same Floor Plans
Rubicon Place, Dayton, Ohio

CHARLES F. CELLARIUS, ARCHITECT

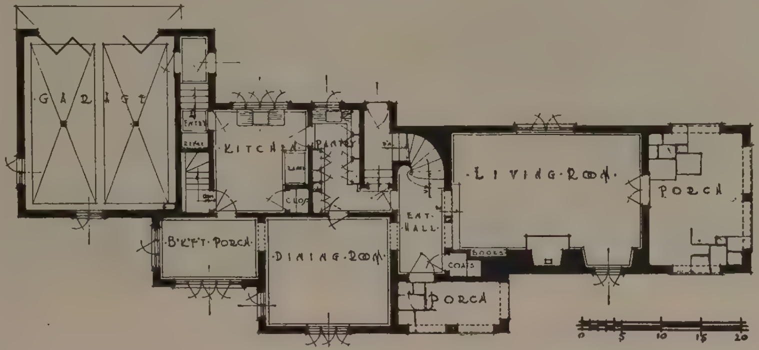


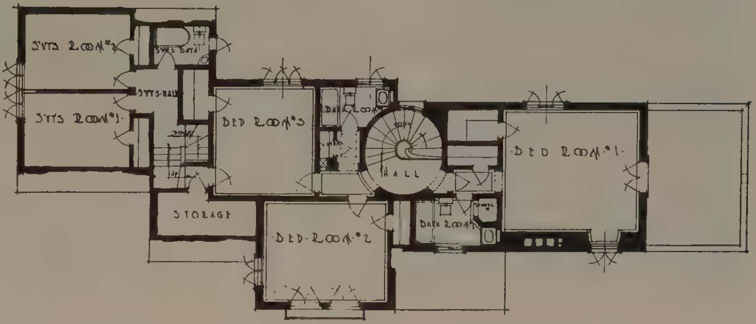


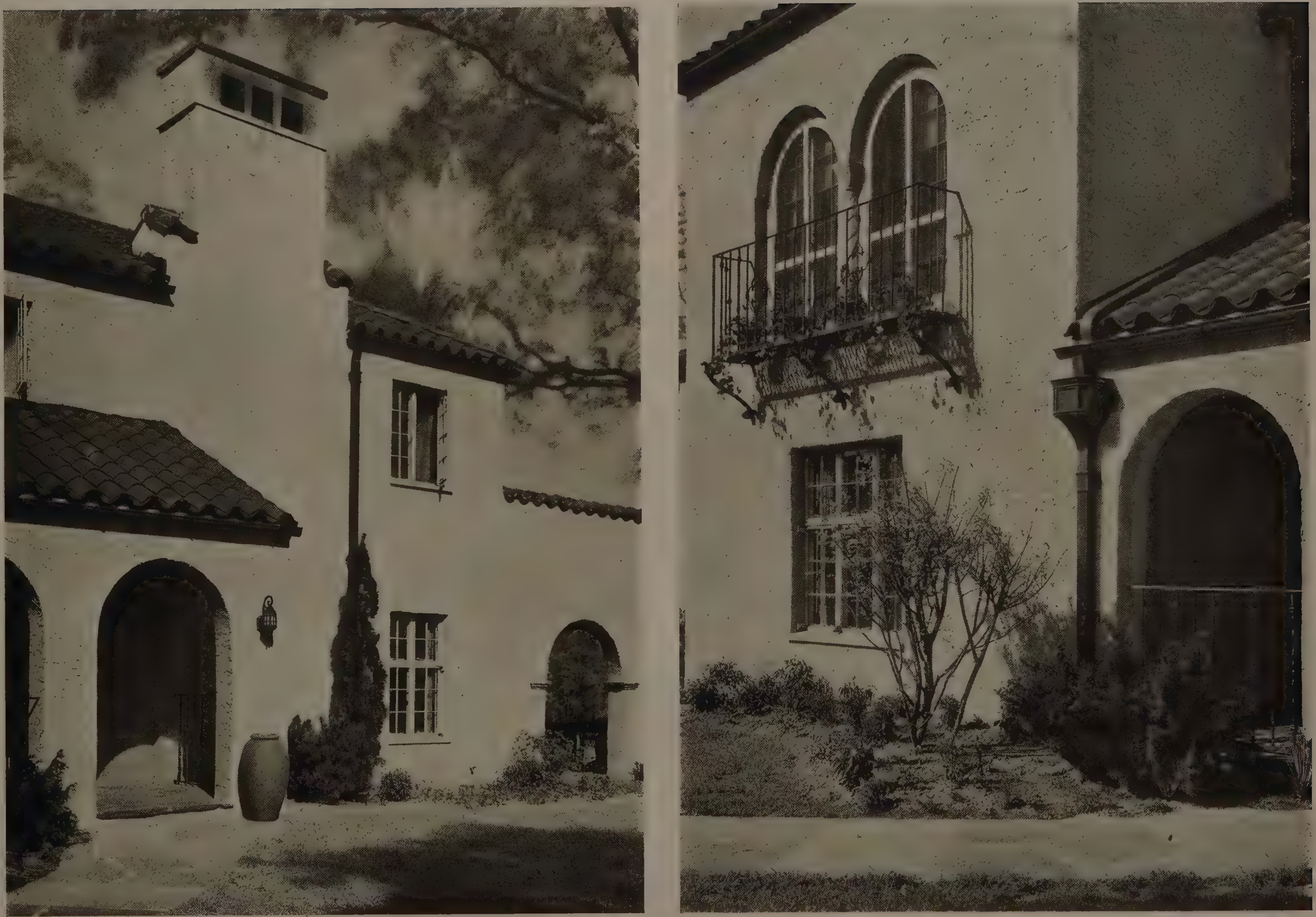


House of Umberto d'Alessandro, Bronxville, N. Y.

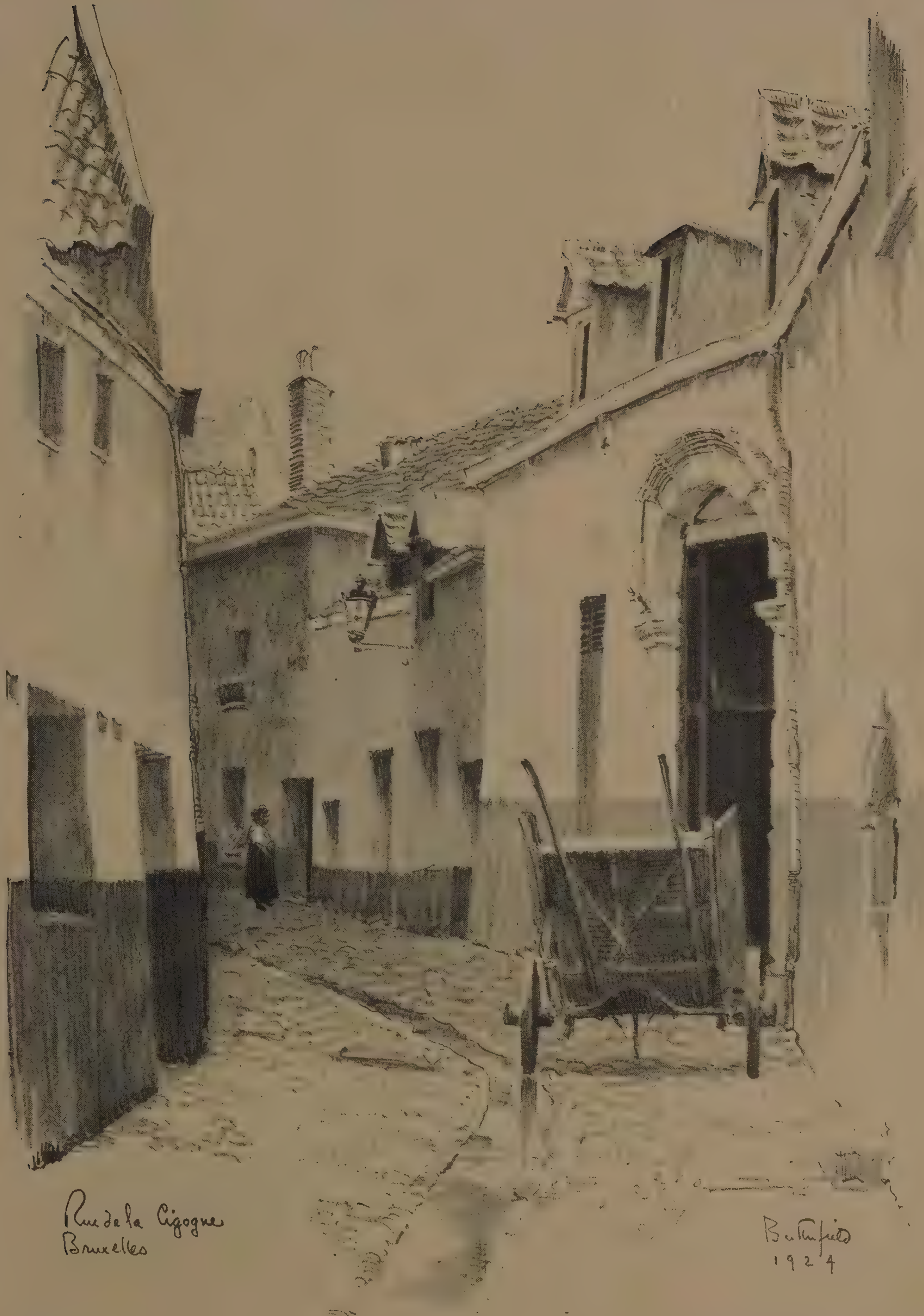
LEWIS BOWMAN, ARCHITECT





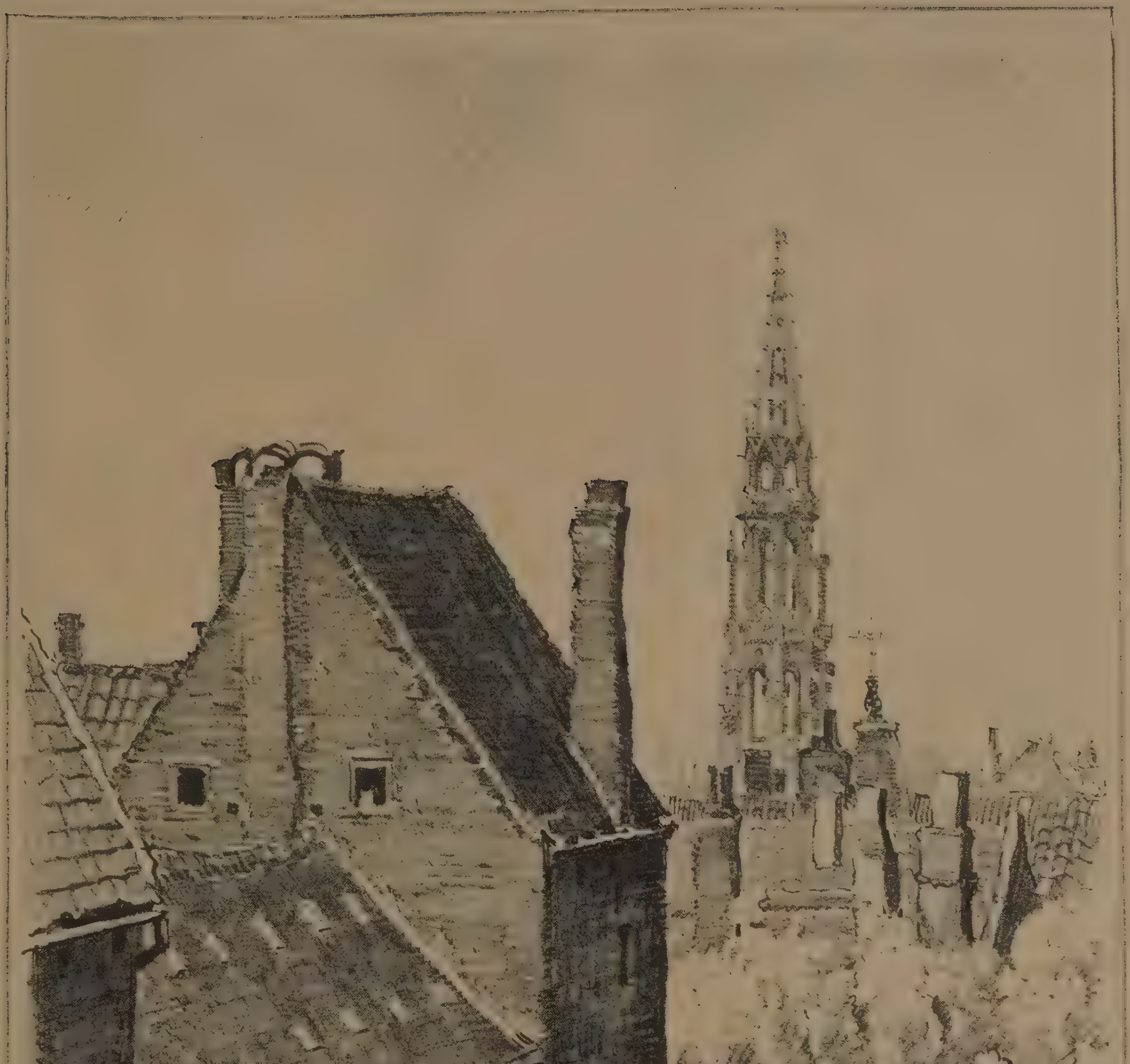


House of Umberto d'Alessandro, Bronxville, N. Y. Lewis Bowman, Architect



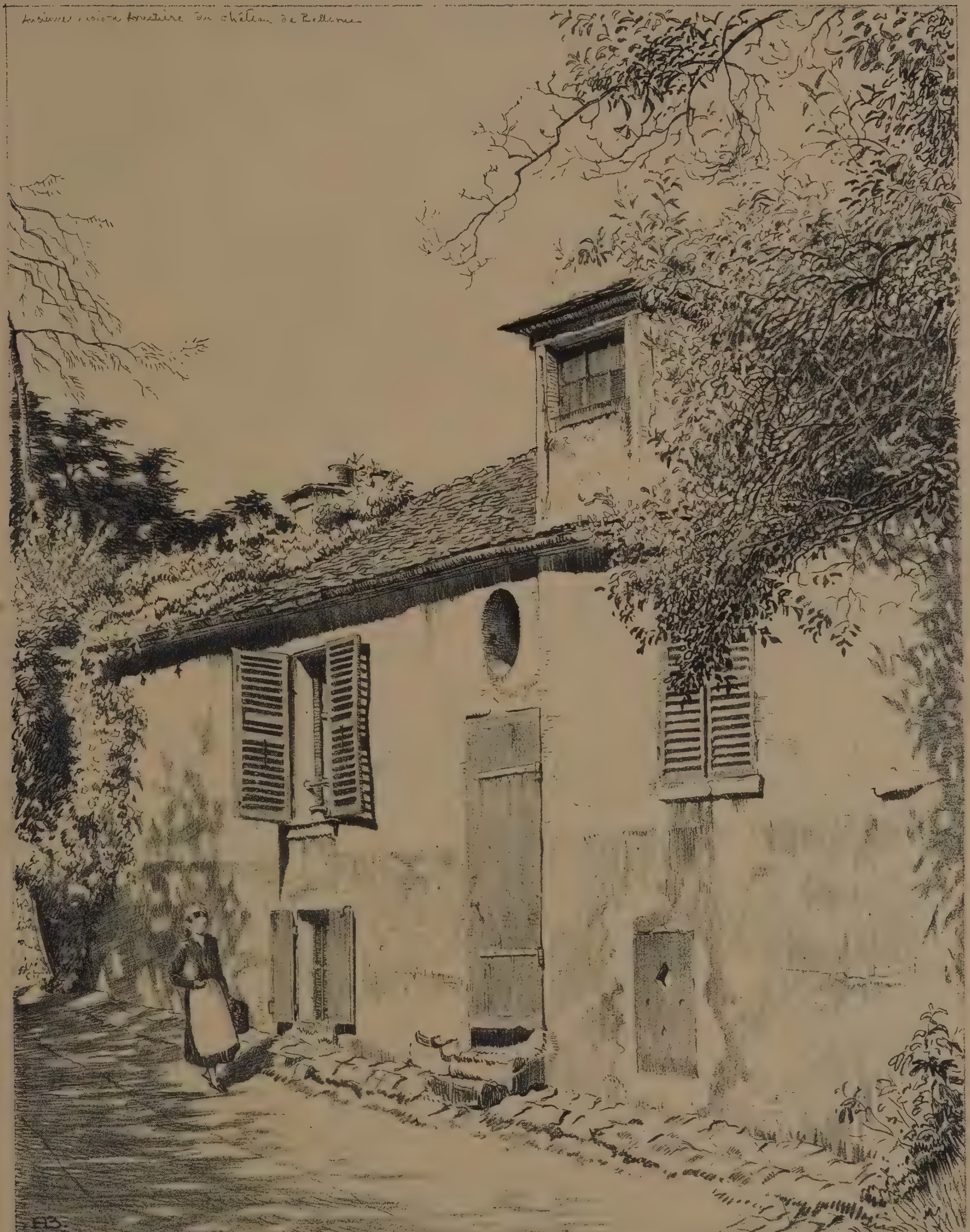
Architecture
February, 1927

Pencil Drawing by Harold Butterfield

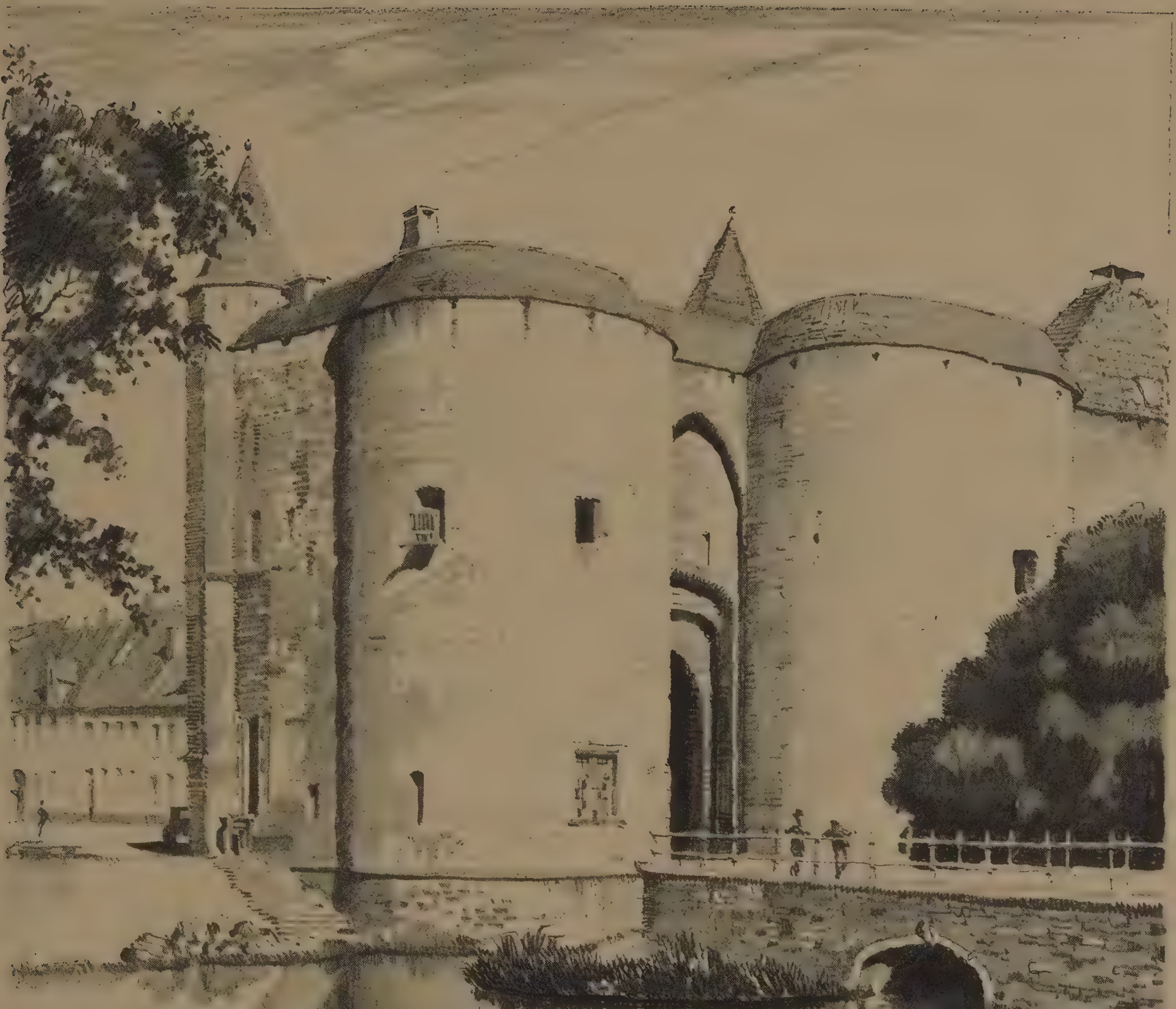


ARCHITECTURE
FEBRUARY, 1927

Pencil Drawing by HAROLD BUTTERFIELD

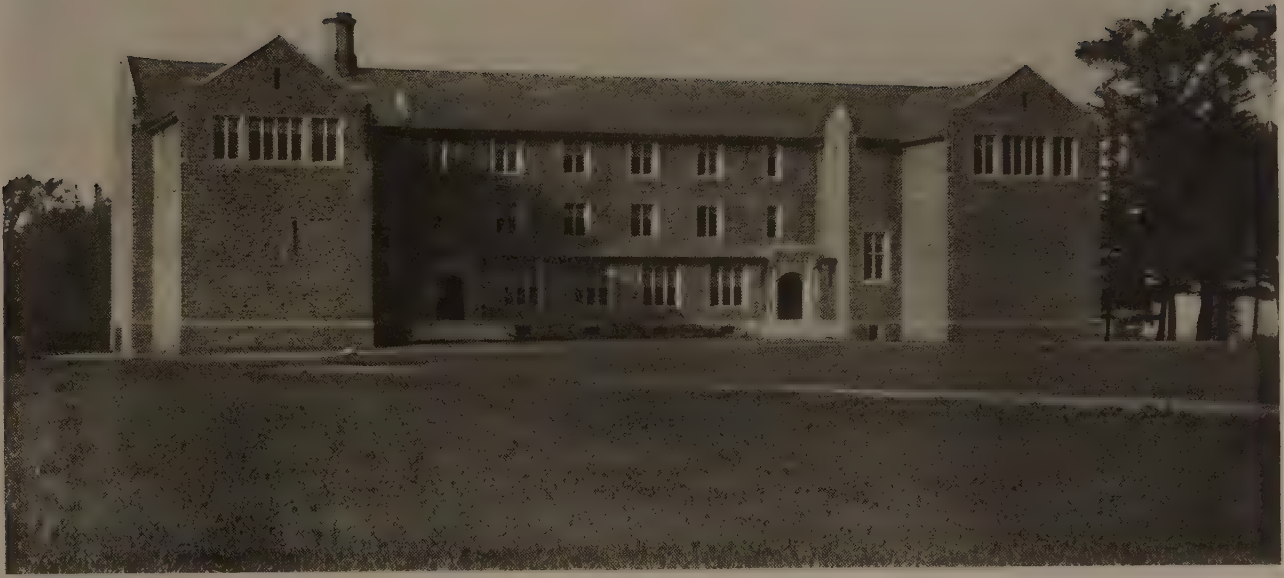

Ancienne maison forestière du château de Bellevue
HB.
1926

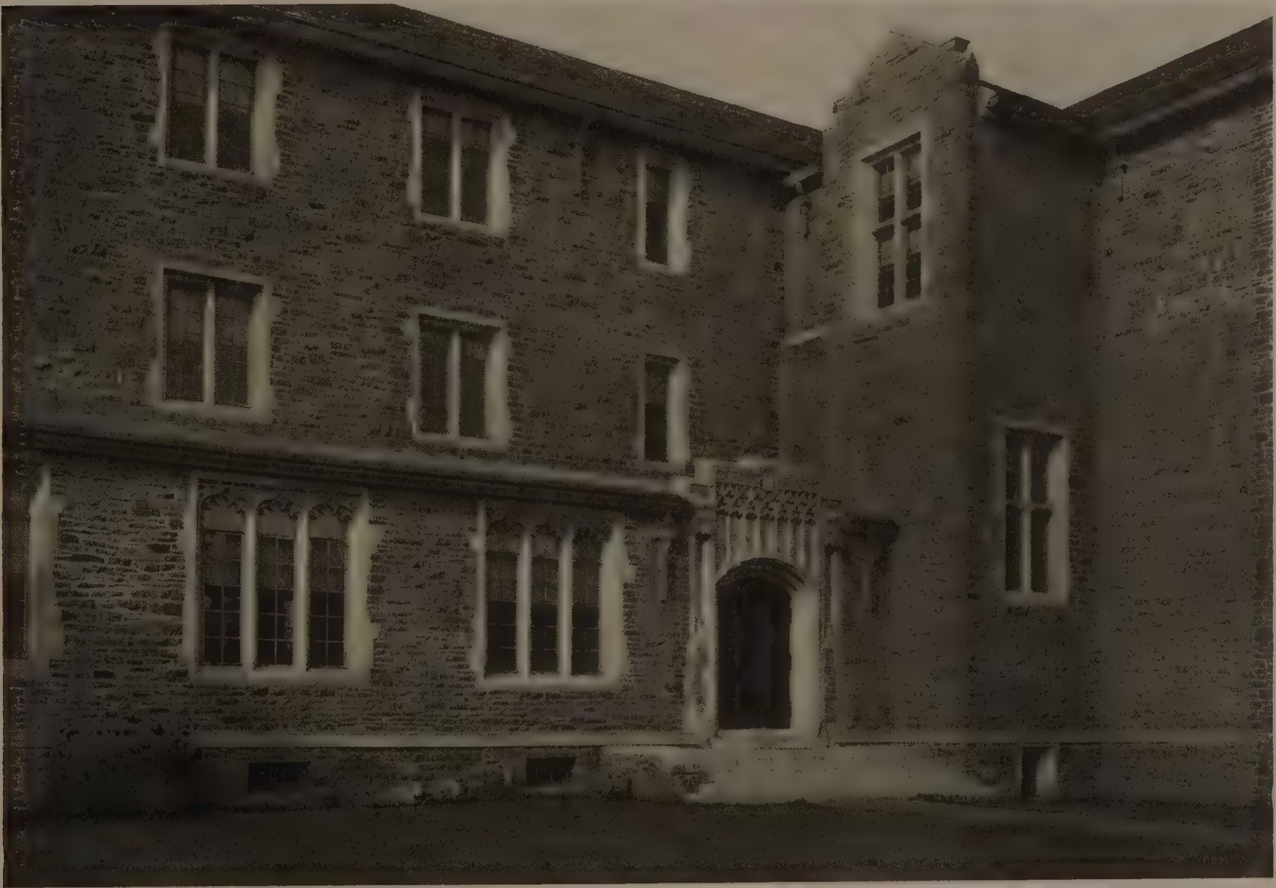
Pencil Drawing by HAROLD BUTTERFIELD


Porte de Gand - Bruges - 1926.

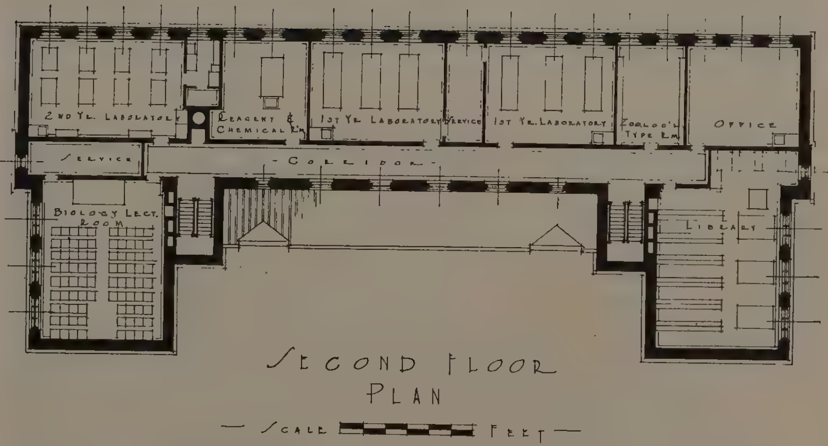
ARCHITECTURE
FEBRUARY, 1927

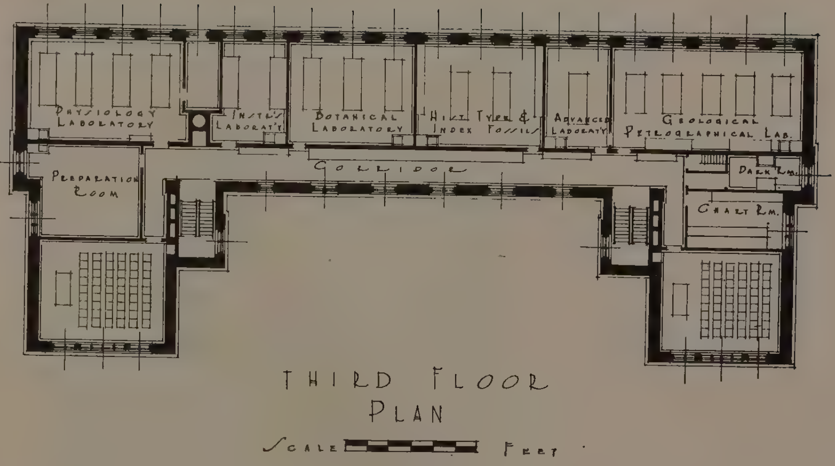
Pencil Drawing by HAROLD BUTTERFIELD





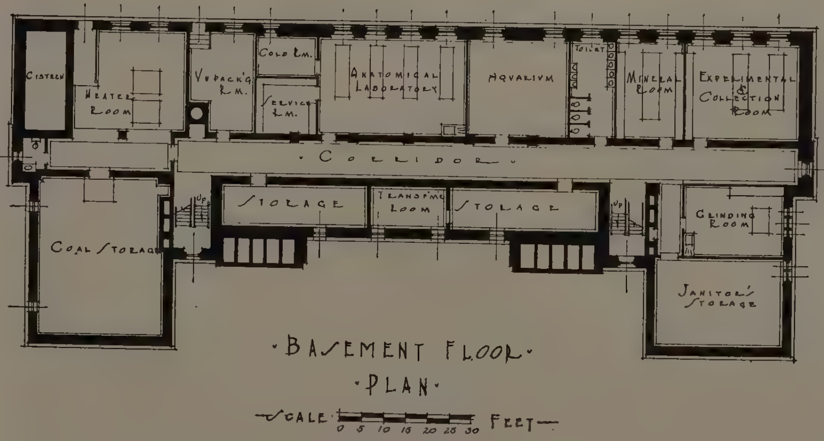
Science Building for Hamilton College, Clinton, N. Y. BAGG & NEWKIRK, ARCHITECTS

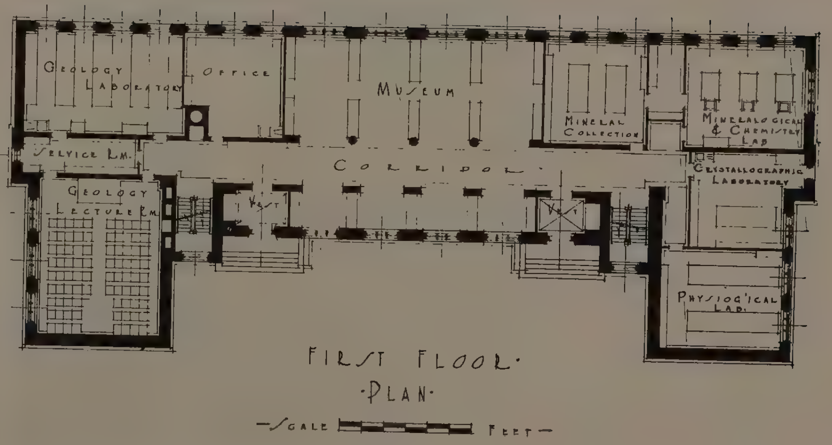


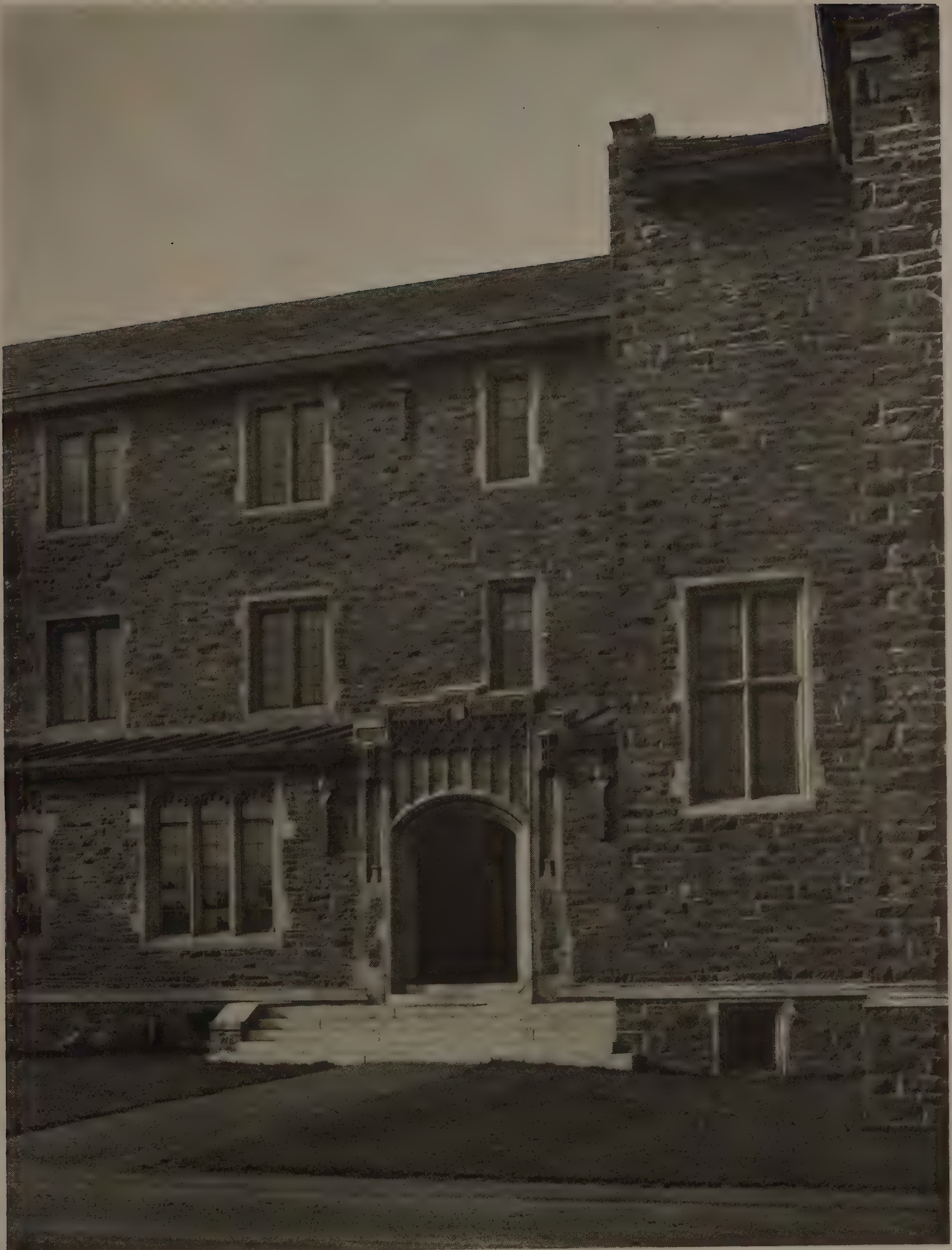


Science Building for Hamilton College
Clinton, N. Y.

BAGG & NEWKIRK, ARCHITECTS

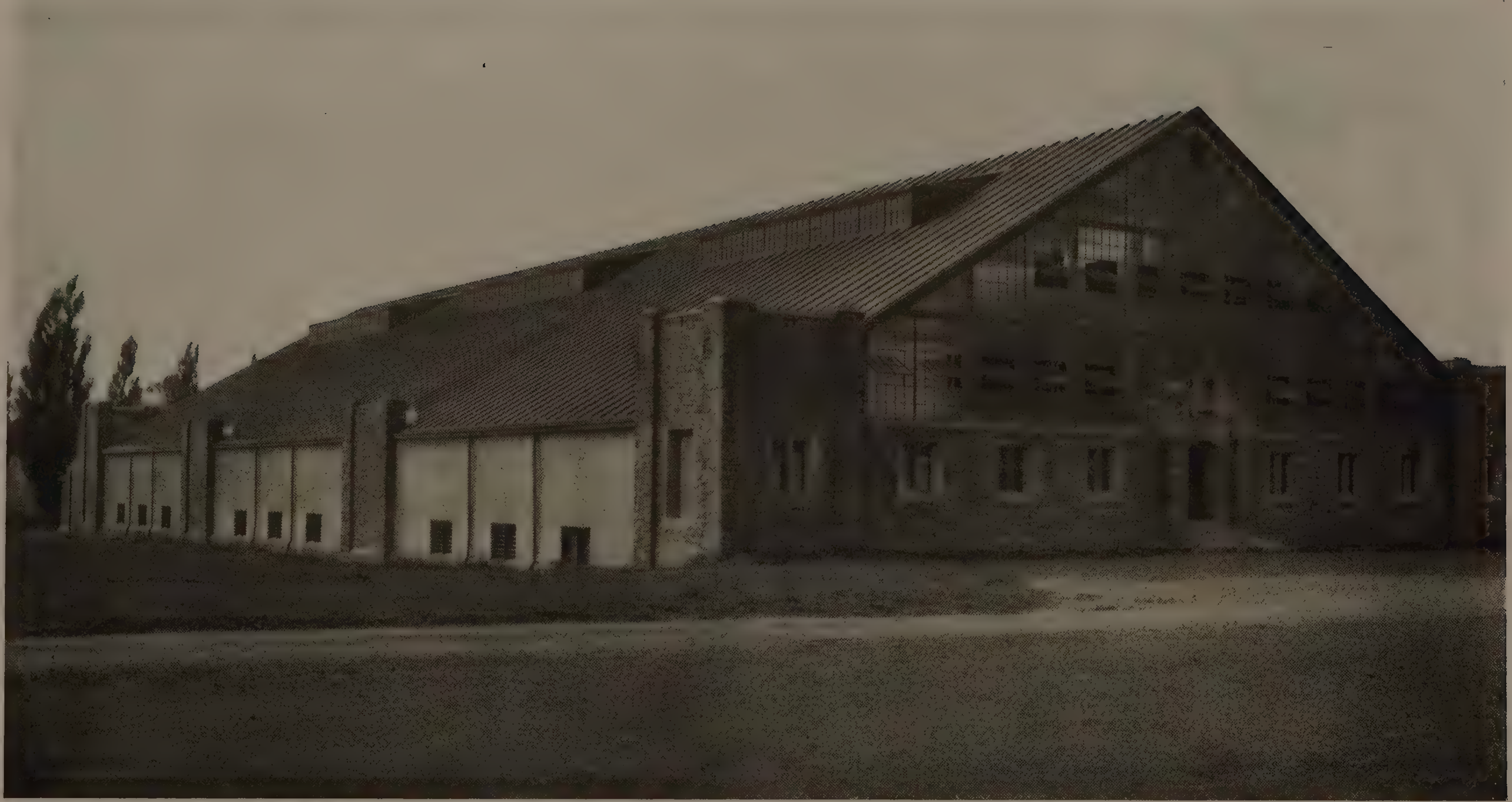


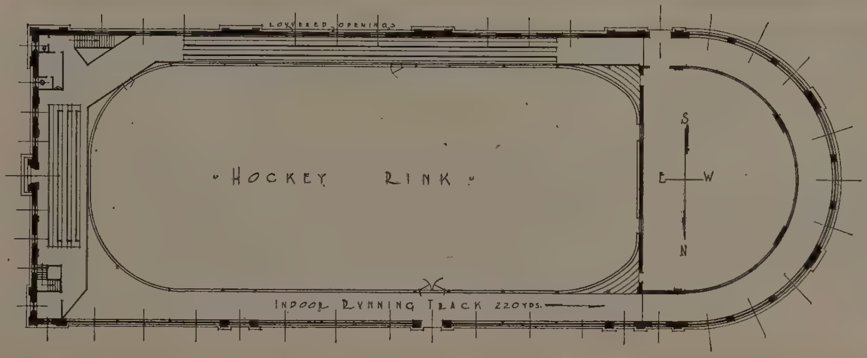




SCIENCE BUILDING FOR HAMILTON COLLEGE, CLINTON, N. Y.

BAGG & NEWKIRK, ARCHITECTS





Hockey Rink
Hamilton College, Clinton, N. Y.

BAGG & NEWKIRK, ARCHITECTS

A SYMPOSIUM ON THE SUBJECT OF COMPETITIONS

Further opinions from members of the profession. The first instalment appeared in the November, 1926, issue, followed by a second one in December

They are practical

I believe that competitions for actual buildings to be built on a definite site at a definite time are practical. Where an owner is broad enough to offer an open competition, practical qualifications of the ones receiving award being considered, I believe it gives him a better design and better plan.

Theoretical competitions, such as have been offered by a number of organizations for houses, etc., I believe should be grouped geographically, and awards given to the winner in each territory, and a grand award given for the whole territory.

I have entered a few of the latter type, and, although not awarded a place, have enjoyed them and received benefit from them.

Roy W. Leibsle,
Secretary Iowa Chapter, A. I. A.,
Des Moines, Iowa.

Competitions do not improve building

I do not enter competitions unless I am especially invited, as I have generally found the architect to be already selected before the competition is conducted; and, further, I don't believe they improve the quality of architecture, the selection being generally according to the tastes of the building committee.

I speak of the general competition without an architectural adviser of taste or discrimination, or those not conducted according to the rules of the American Institute of Architects.

M. R. Sandel,
of M. R. Sandel & Co.,
Chicago, Ills.

Do experience and capability count?

Generally speaking, we are opposed to competitions, even though we were awarded six first prizes, three second, and one third, and a first mention, in the eleven competitions we entered in fourteen years of our thirty-seven years of practice.

Competitions to-day seem to be much used as a means of ducking responsibility by those municipal or other officials vested with the power of placing contracts for architectural services, or by the usual small-town building committees ordinarily representing the clergy, legal, medical, banking, and building circles. It sometimes happens that the job is already secretly placed for one consideration or another, in which case the competition provides a blind or pacifier for the others. Lacking such preliminary arrangements, the job will generally go to the more fluent, glib-tongued "salesman-architect," or to him who presents the prettiest perspective properly embellished with the figures of the more prominent townspeople passing in review. Experience, integrity, or capabilities of design count for naught in these competitions.

From the competitions sponsored by unions, trade publications, or building-material manufacturers, we can expect to learn the names of some promising young students or draftsmen, and later find the already complete stock-plan market more thoroughly saturated.

Indeed, the only possible excuse we can entertain for a competition is for the business concern or memorial association seeking the most unique, striking, or grotesque solution of their building problem. Let these select a few of the "big fellows" in the game who can best afford the gamble, or divide their few big prizes equally among the contributors to the programme (to pay for paper and pencils) and award the winner the job.

Earle G. Kingston,
of John P. Kingston & Son,
Worcester, Mass.

The two classes of competitions

Architectural competitions may be divided into two classes—competitions as prescribed by the American Institute, invited competitions in which the architect is in any event reimbursed for his time and expenditure, the programme followed and judged on merit by capable men. There is much to be said for and against this form of competition, but I leave others of more experience to dwell on this phase of competition.

It has been my experience, unfortunately, to come into contact with so-called architectural competition of another class; namely, competition conducted by inexperienced building committees appointed by cities, towns, or corporations. I am very glad of the opportunity to express my opinion that this form of competition is most impractical, unsuccessful, and does not lead to better architecture, and is very far from good practice. So positive am I of this, that for the past six years I have had nothing to do with competitions of this sort. The reasons, in my opinion, are as follows:

First: The fact that invariably the committee, having no idea, or at least vague ones, of what the building programme is, and generally rather a definite one as to how much money is to be spent, leaves the competing architect with what I term a "salesman job." The committee's eyes are caught by the highly colored perspectives and elusive tentative costs, which lead to the selection of the architect; and as the working drawings are made, it is found necessary to make radical changes. Oftentimes, the finest solutions of what they really want are cast aside, because of pleasing personalities and unwarranted and oftentimes untruthful guaranties.

Second: To be successful in a competition, much time must be spent both in preparing the drawings and in selling the job. It is fair to assume that only a small proportion of the competitions are won by any one firm of architects, and the loss of time and money must in real practice be proportioned onto the successful. It follows, therefore, that the owner gets less of the attention in employing an architect whose practice is as outlined above; or else the architect cannot make the money that is surely due him. I believe it is the former that is the actual result.

Third: Really, while they are called competitions, they are not competitions at all from the architectural standpoint. They may be competitions from other standpoints, but from the architectural standpoint this competition is an absolute loss. There is the layman who judges and selects the successful architect, not from the merits of his drawings, because he does not see them, but selects because of influence, persistency, and other causes which have no bearing on the matter.

Fourth: From the very nature of this competition, the attitude shown the architect by the owner is wrong at the start. To make a successful building, the owner should have respect for his architect, should believe in his integrity and his ability. This form of competition tends to break this down, and it is oftentimes impossible for the architect, after the commission is gained, to lead his client in the way he should go, even for his own good. In this form of competition the architect is placing himself under obligation to the owner, and no situation like this can exist between the owner and the architect and be sure of a successful building.

These are a few of the reasons why, in my experience of over fifteen years, I have withdrawn from architectural competition, unless invited and under ruling as prescribed by the American Institute. This is not only because I am sincere in the profession which I practise, but I am frank to say that I find that it is better business and that I have had more real work to do and have made more money.

Malcolm B. Harding,
Westfield, Mass.

Why competitions are held

Competitions are resorted to for one of three reasons: first, because the owners cannot agree on an architect; second, because the owners believe it is the best way to ascertain who is the best architect; third, because the owners desire to see a number of different possible solutions to their problem.

The first—impossibility of agreement amongst the owners—is a calamity, and usually due to everybody playing favorites and no one willing to give in.

The second—for determining who is the best architect—is a mistake due to a misapprehension based on the fair sound of the word "competition" and the layman's supposition that the solution of a particular problem on paper is the criterion of the ability of each competitor.

The third—the competition offering a choice of possible solutions—is often reasonable and often a highly to be commended method. If I were an owner and wanted to get the best possible Lincoln Memorial or Nebraska State Capitol, I should certainly hold a competition. If I were an owner and wanted to build a million-dollar mansion, I believe I would spend $50,000 of it in getting possible solutions from the three best architects whom I could persuade to make sketches. But if I were an owner and wanted to build me a *home*, a factory, a hospital, or an office building, I would sit down with one architect and work out with him the thousand and one practical and artistic considerations that would mean so much to my happiness or my commercial success.

William Orr Ludlow,
Ludlow & Peabody,
New York.

The point of view of the jury

Quite frankly, it has been our good fortune to have very little to do with competitions. The few in which we have taken part put so much emphasis on the presentation and on what might be assumed to be the point of view of the particular jury, that the results were hardly of much satisfaction to ourselves or to the competition.

It has been our experience that the strength of the organization, and its ability to direct a piece of work through all the various stages, cannot be judged in any way by competition, because the personality of the men back of the work is necessarily unknown.

It would seem, in many cases, to be distinctly more practical to select a list of men qualified to study a particular building and have the choice made by lot, as a much more intelligent way of avoiding unnecessary cost and effort on the part of a large number of men.

Eli J. Kahn,
of Buchman & Kahn,
New York City.

Does not safeguard the interests of the owner

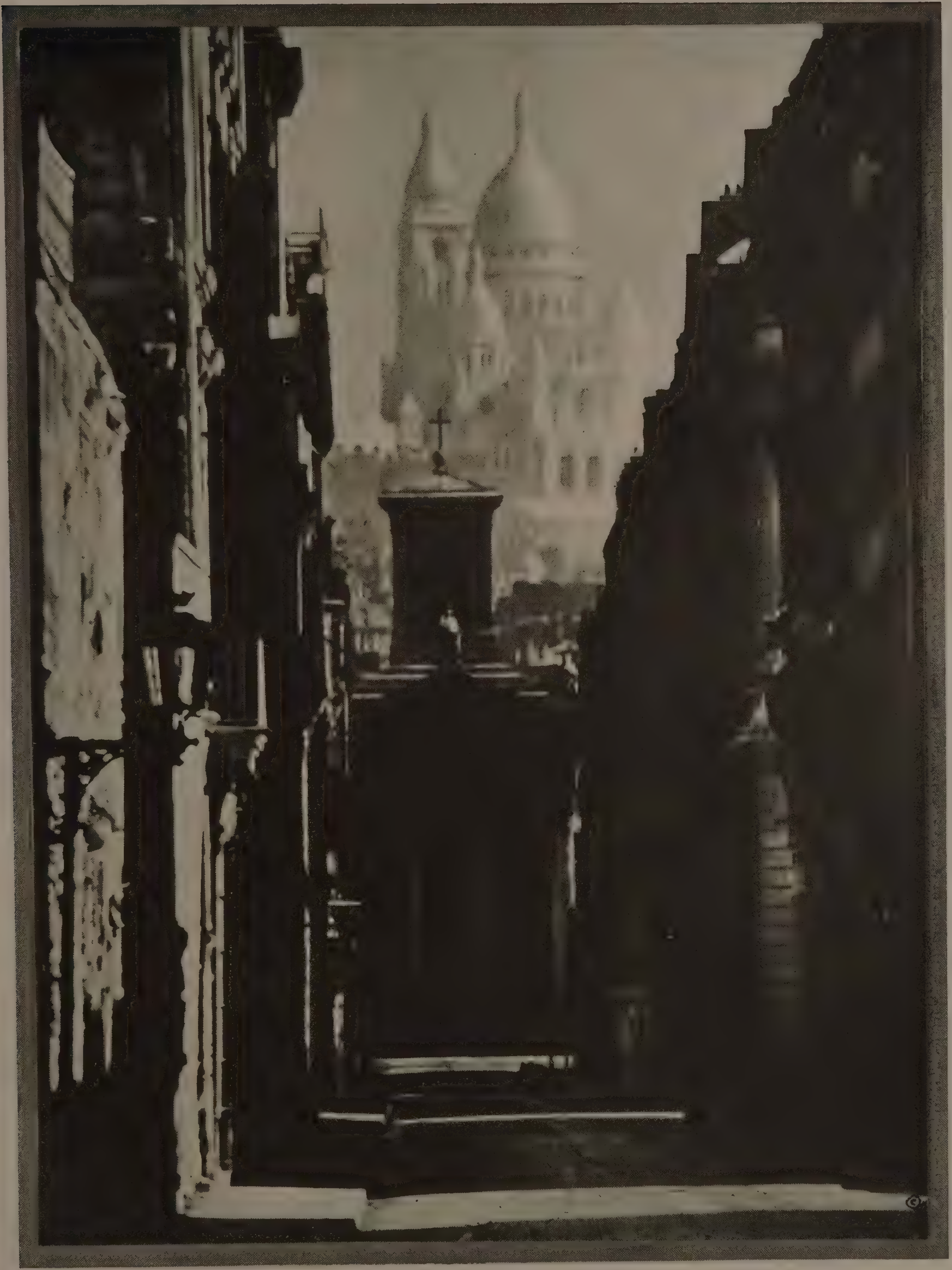
I don't think it matters what any member of the architectural profession thinks about competition, but I do think it is important that an owner should know that the competition method of selecting an architect seldom brings the desired results.

I am opposed to the competition method of selecting an architect because I do not believe it safeguards the interest of the owner. Attracted by a pleasing picture, the owner often fails to recognize that character, reputation, training, and experience as an artist and a business man are the important qualifications.

A competition of drawings is a matter of salesmanship, while the attitude of an architect toward his client should be that of a professional adviser from the very beginning.

An architect directly employed enters upon the work with an open mind, and after careful study of the problem gives the owner the benefit of his experience and ability. The best architecture and the most serviceable building are obtained by this method.

George H. Shanley,
Shanley & Baker,
Great Falls, Montana.



Sacré Cœur à l'Aube

photographic study (copyright) by James H. Hibben

ANNOUNCEMENTS

Changes of Address

Everett H. Merrill and John C. Rahn announce the consolidation of their interests under the firm name of Merrill & Rahn, architects, engineers, and contractors, and the removal of offices from 4475 Santa Monica Blvd. to Suite 617, Financial Center Bldg., 704 So. Spring Street, Los Angeles.

Edward M. Adelsohn, registered architect and engineer, has opened a down-town office in Brooklyn, N. Y., at 26 Court Street. His present up-town office will continue at 350 Stone Avenue.

Hewitt & Emerson, Peoria Life Building, Peoria, Ill., announce that Richard Seaton Gregg has been admitted to partnership, and the firm name will henceforth be Hewitt, Emerson & Gregg.

John M. Paul, architect, has moved his office to 8 Church Street, White Plains, N. Y., where he would be glad to receive samples and catalogues.

Owing to the death of Andrew C. McKenzie, the firm of McKenzie, Voorhees & Gmelin has been dissolved. Stephen F. Voorhees, Paul Gmelin and Ralph T. Walker announce the formation of a partnership under the name of Voorhees, Gmelin & Walker for the practice of architecture, with offices at 342 Madison Avenue, New York. This partnership continues a practice founded about 1882 by Cyrus L. W. Eidlitz.

The American Academy Fellowships

THE American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, and sculpture. The competitions are open to unmarried men not over thirty years of age who are citizens of the United States. The stipend of each fellowship is $1,250 a year for three years, with additional annual allowances of $50 to $100 for material and model hire, and opportunity for extensive travel. Residence and studio are provided at the academy free of charge, and the total estimated value of each fellowship is in excess of $2,000 a year.

Under regulations revised this year for the competition in architecture, graduates of accredited schools will be required to have had architectural office experience of six months, instead of a year, and men who are not graduates of such schools may enter the competition if they have had at least four years' architectural office experience and are highly recommended by a Fellow of the American Institute of Architects.

Entries for all competitions will be received until March 1. Circulars giving full information may be secured by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York City.

A RECENT LEGAL DECISION

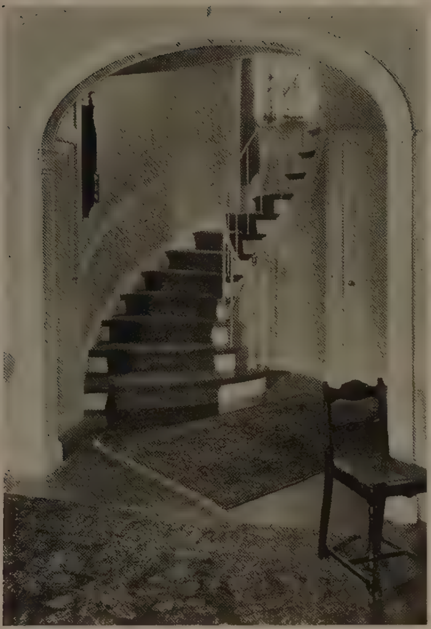
ACTION was brought for the death of the patron of a moving-picture theatre in Washington, D. C., when the roof, ceiling, and balcony collapsed and fell, the joint defendants named being the company which built, owned, and operated the theatre, its president, the architect of the building, the contractor, the company which furnished the iron and steel work for the building, and the District of Columbia. The Court of Appeals of District of Columbia had under consideration appeals by the contractor, the steel construction company, and the architect from an order of the Supreme Court of District of Columbia overruling demurrers by these defendants to the plaintiff's declaration. Taking that of the contractor, the Court of Appeals holds, Ford v. Sturgis, 14 F (2d) 253, that the allegations of the declaration were not sufficient to warrant a recovery against the contractor, and that it was therefore error to overrule his demurrer.

There was, the court says, no privity of contract between the contractor and the decedent, and the general rule is well established that a contractor's negligence in constructing a building will not render him liable to a third person injured thereby after the work has been completed and accepted by the owner of the building. After completion and acceptance "the liability attaches to the owner, whether the damage is attributable to his own negligence or to that of the builder."

The court quoted Curtin v. Somerset, 140 Pa. 70, an action against a contractor for injury to a hotel guest from the fall of a porch, where recovery was denied and the above general rule was applied, as follows: "The consequence of holding the opposite doctrine would be far-reaching. If a contractor who erects a house, who builds a bridge, or performs any other work, the manufacturer who constructs a boiler, piece of machinery, or a steamship, owes a duty to the whole world that his work or his machine or his steamship shall contain no hidden defect, it is difficult to measure the extent of his responsibility, and no prudent man would engage in such occupations upon such conditions. It is safer and wiser to confine such liabilities to the parties immediately concerned."

The court cited various other cases brought by third parties against contractors for injuries occurring after acceptance of the construction by the employer, in which this doctrine was followed.

The court at the same time sustained the appeal of the architect for the reasons given in the Ford case. Geare *v.* Sturgis, 14 F (2d) 256. The court said: "It is true that the appellant in that case was a contractor furnishing material and services in the construction of the building, but we think that fact is immaterial."



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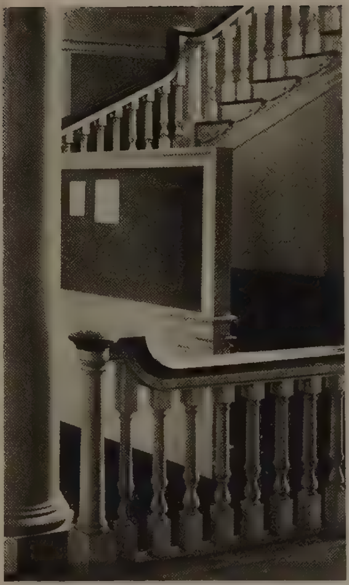
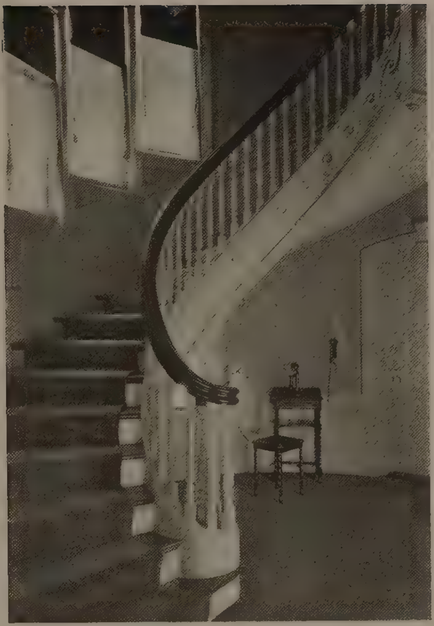


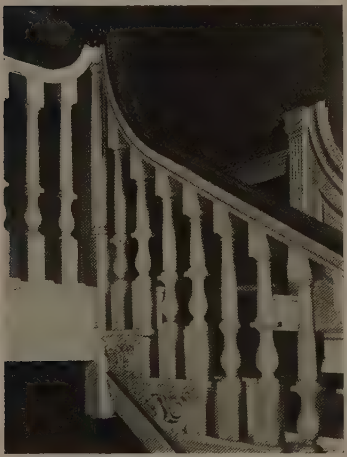
McKIM, MEAD & WHITE



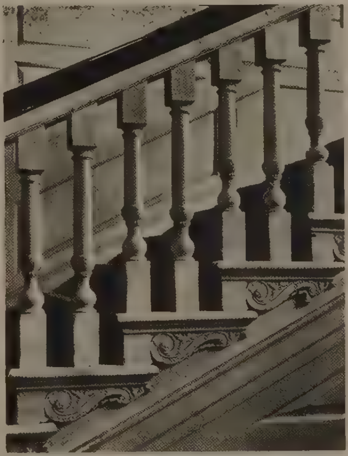
ROBERT C. COIT

Stairway Details

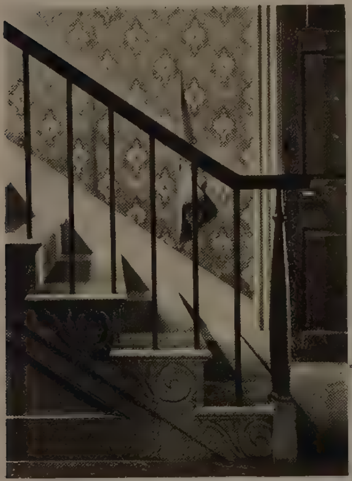
OF THE GEORGIAN, EARLY AMERICAN, AND SIMILAR TYPES. STAIRWAYS OF SPANISH, FRENCH, ITALIAN, AND OTHER TYPES ARE PLANNED FOR LATER SHOWING



"BELMONT," PHILADELPHIA



INDEPENDENCE HALL,
PHILADELPHIA



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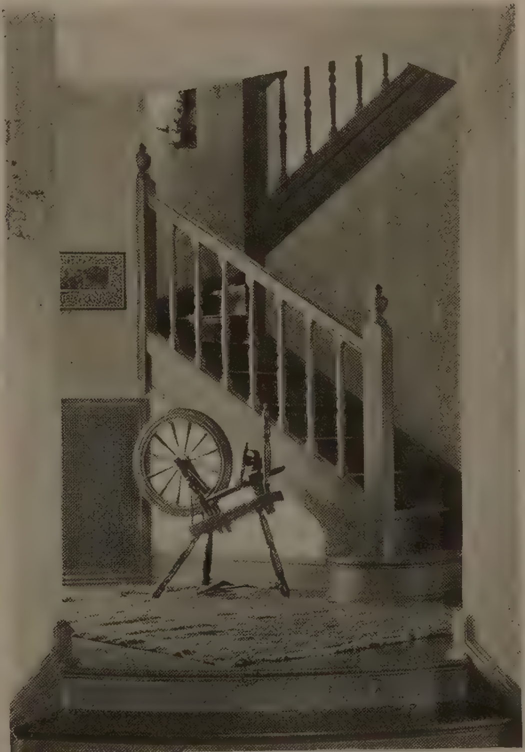

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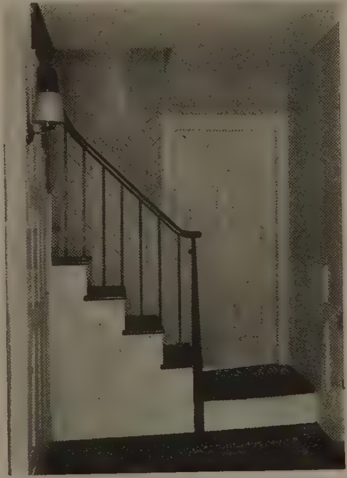

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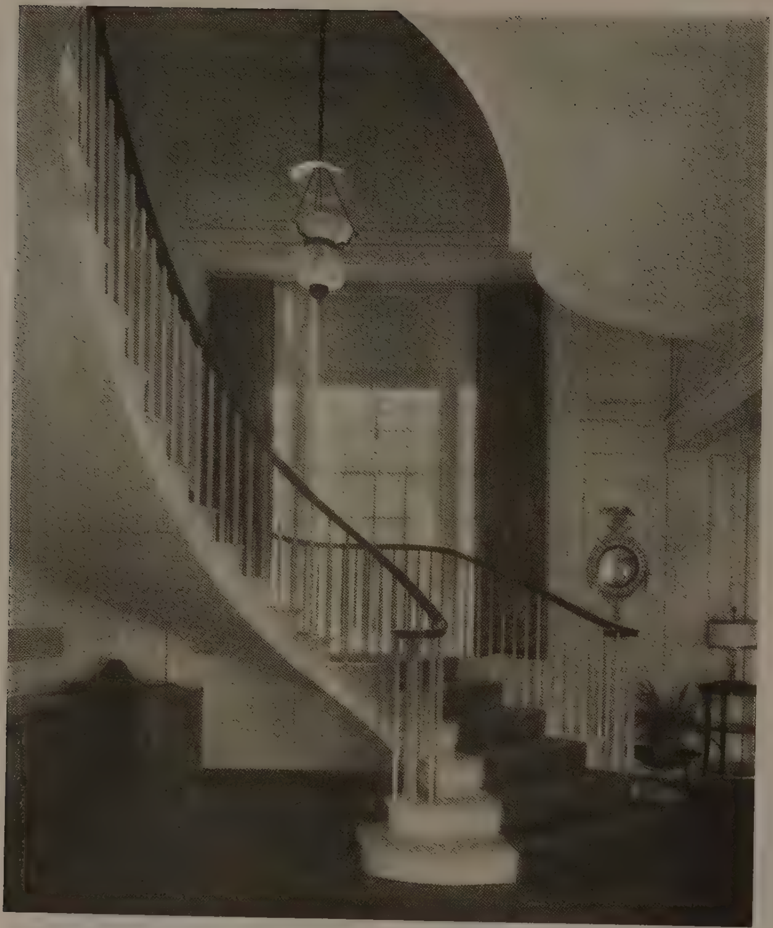

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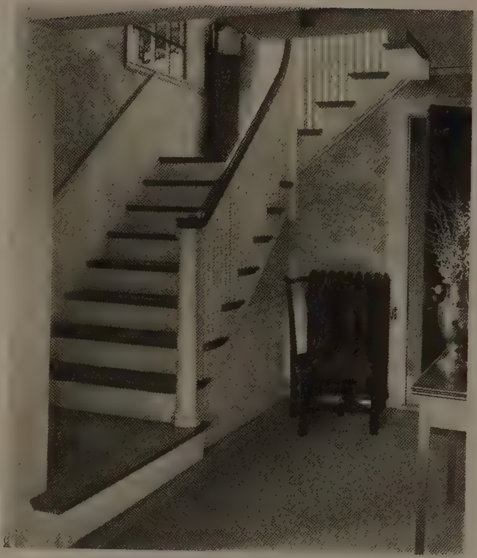

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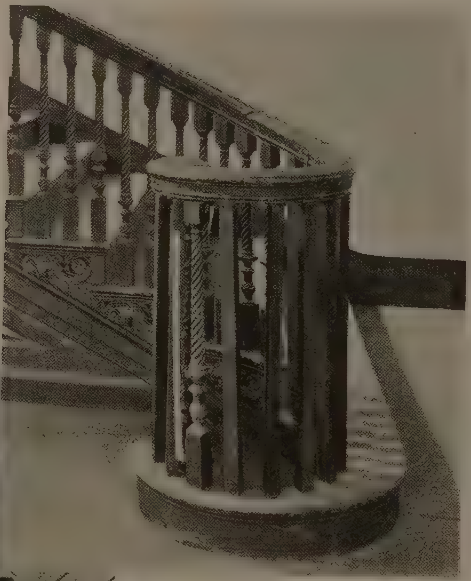

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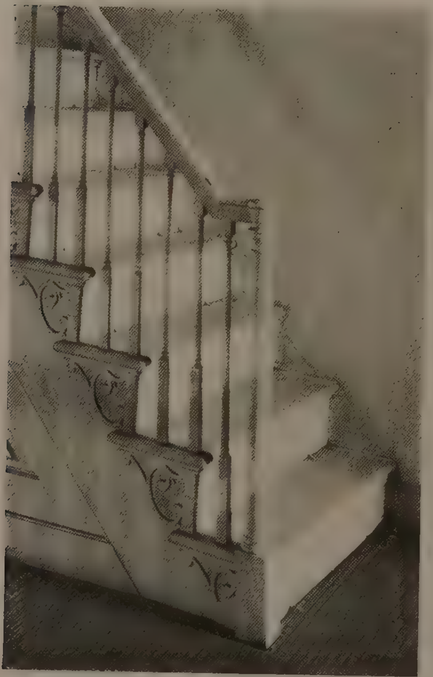

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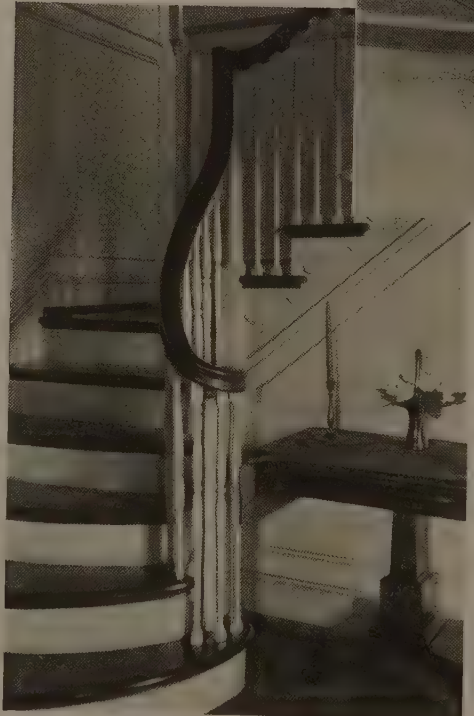
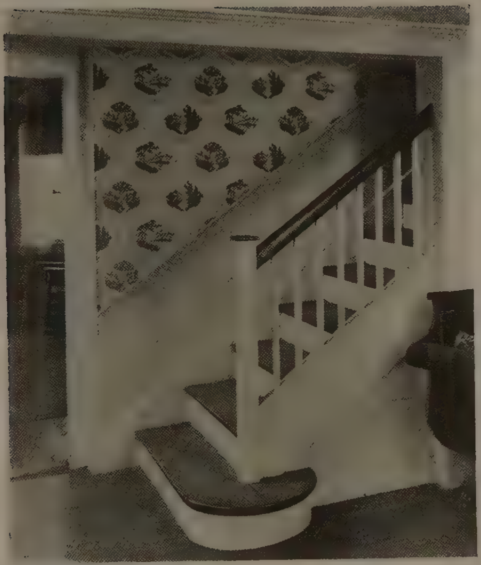


WALLACE & WARNER



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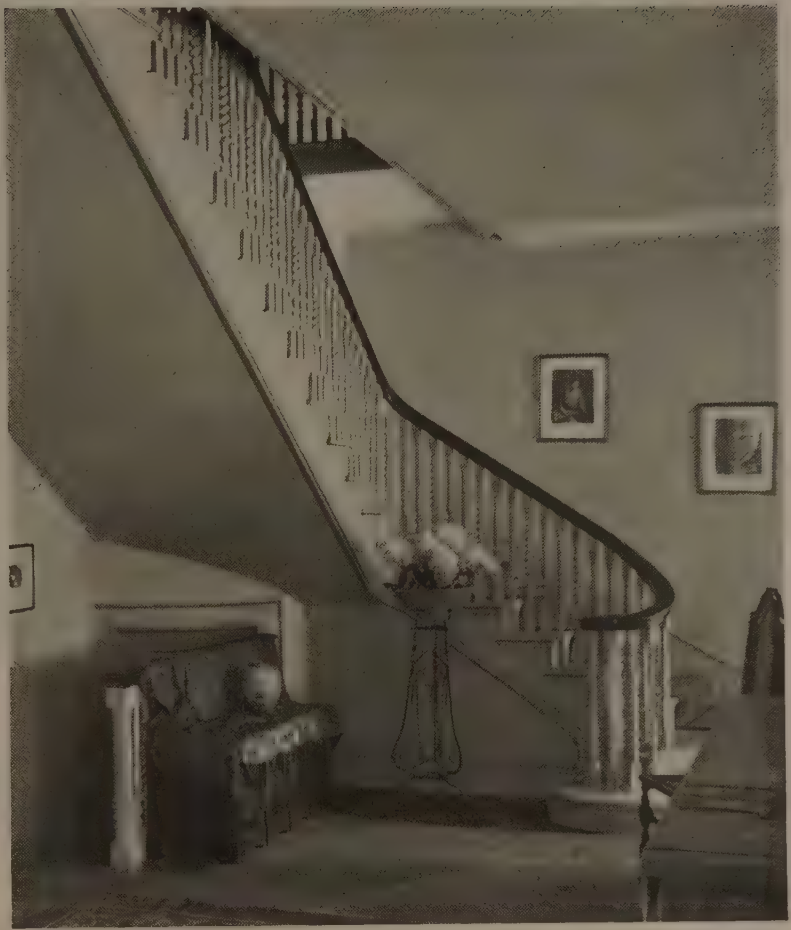

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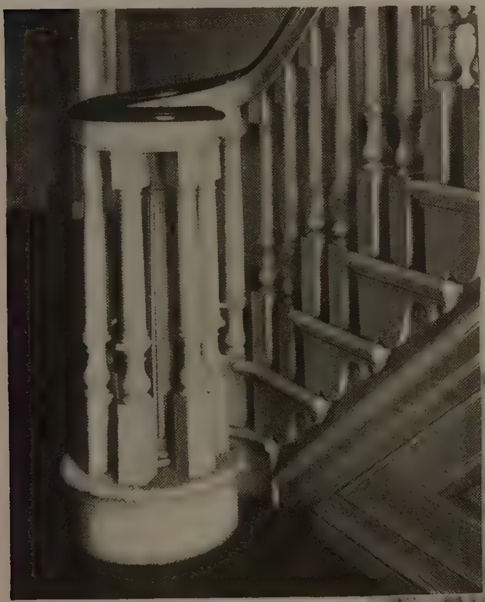

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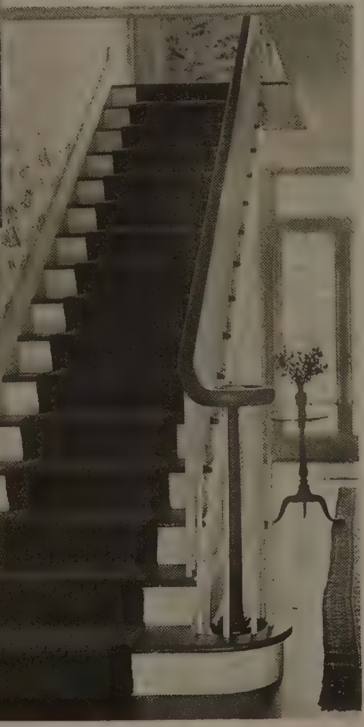

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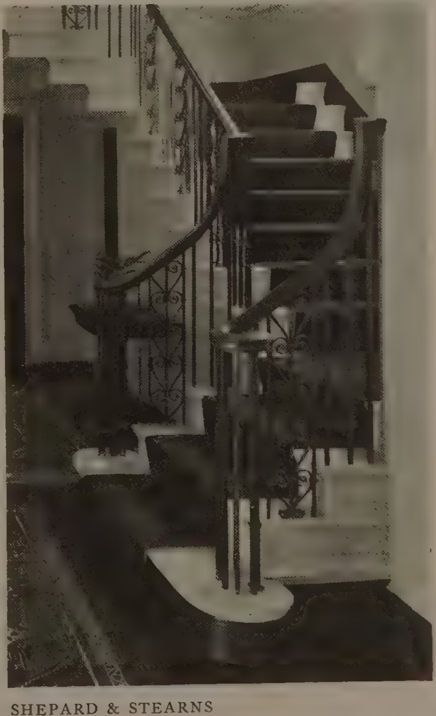

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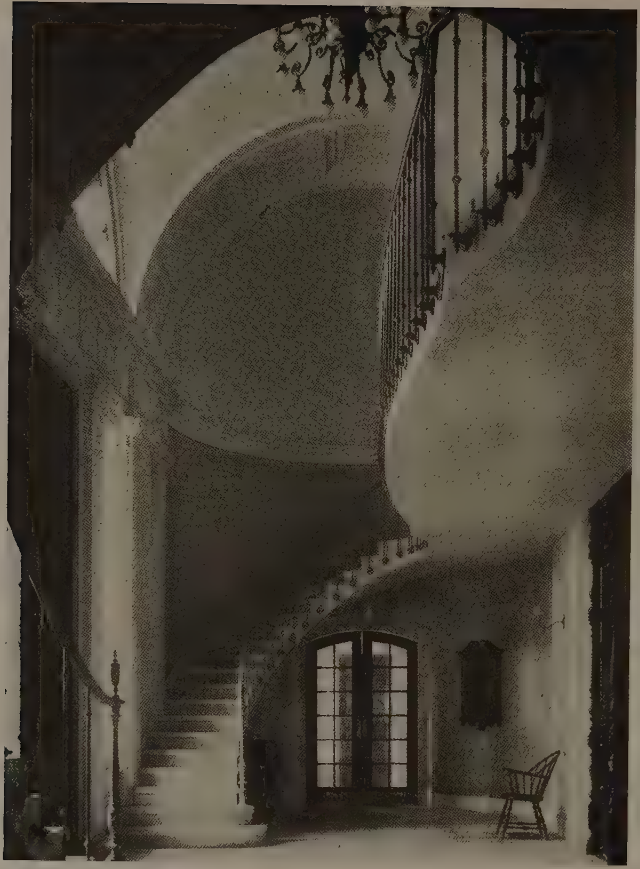

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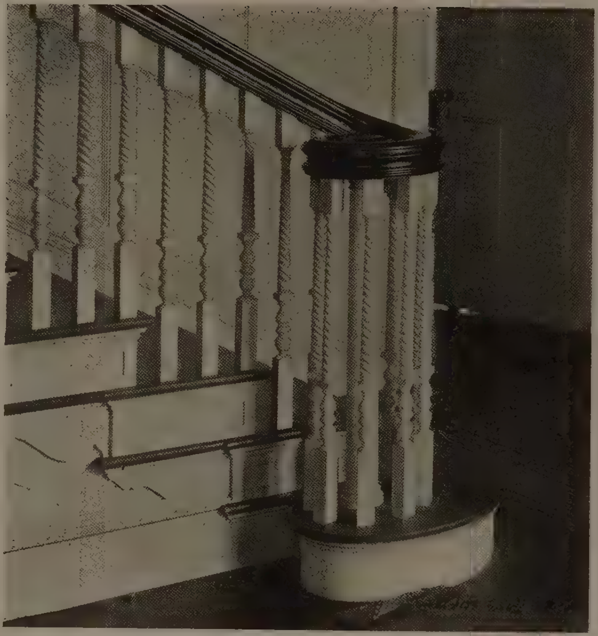
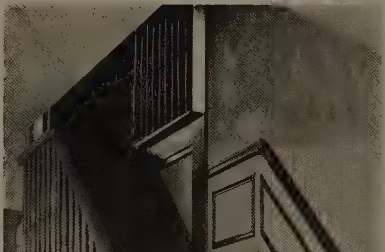


LYNCH LUQUER



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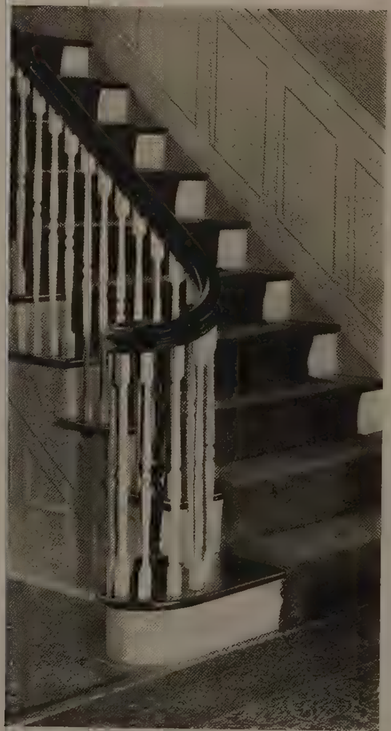

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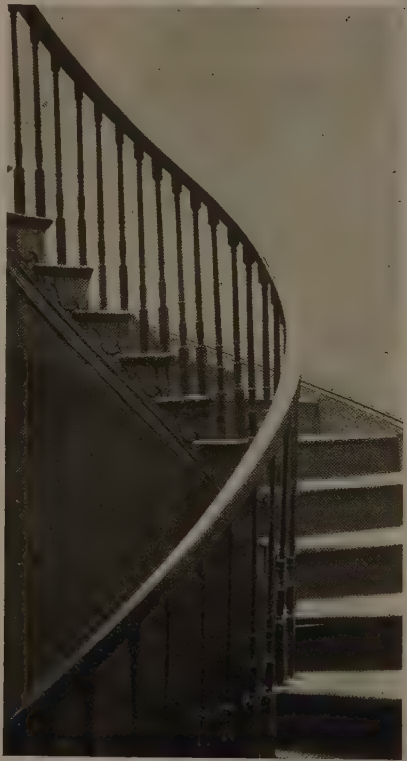
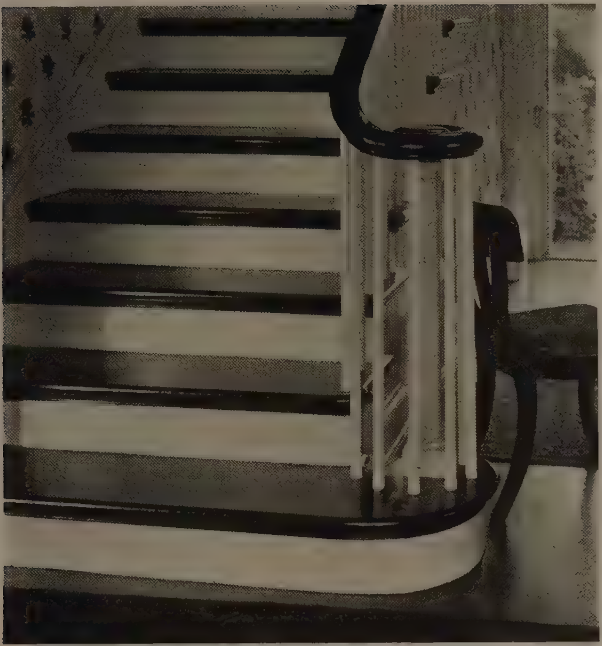


OLD PHILADELPHIA



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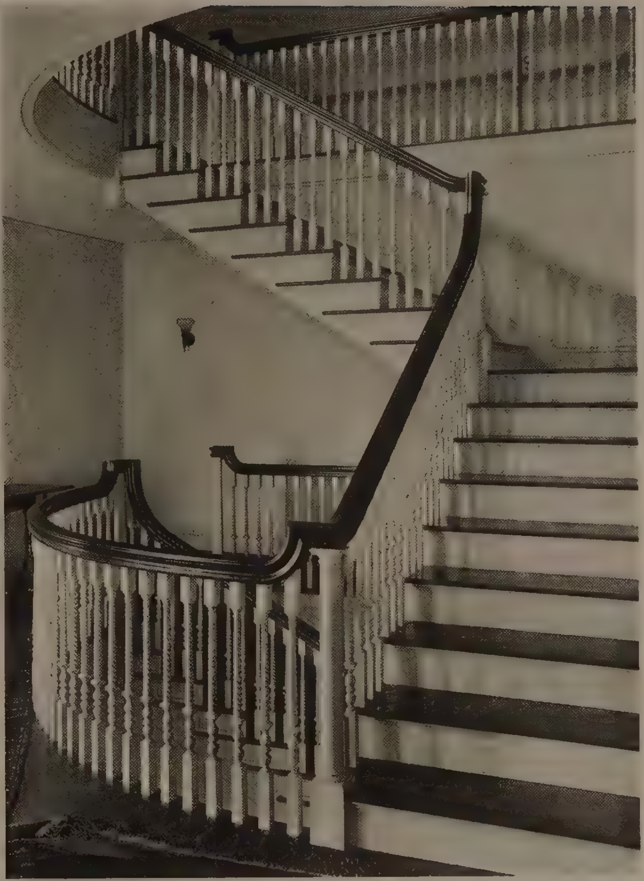

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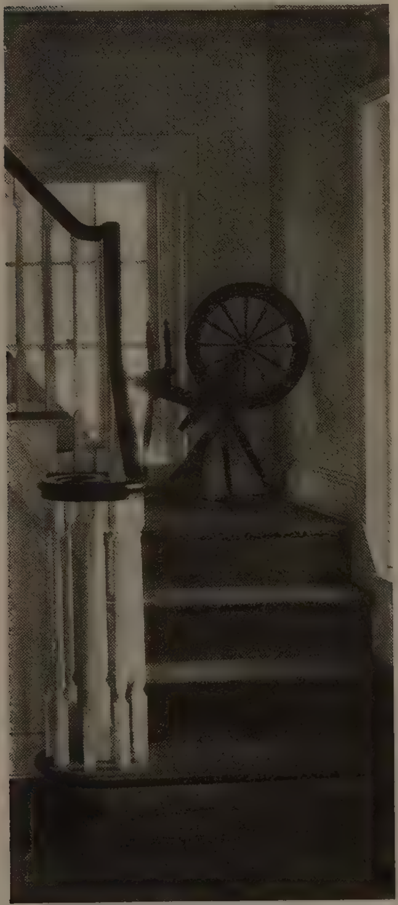

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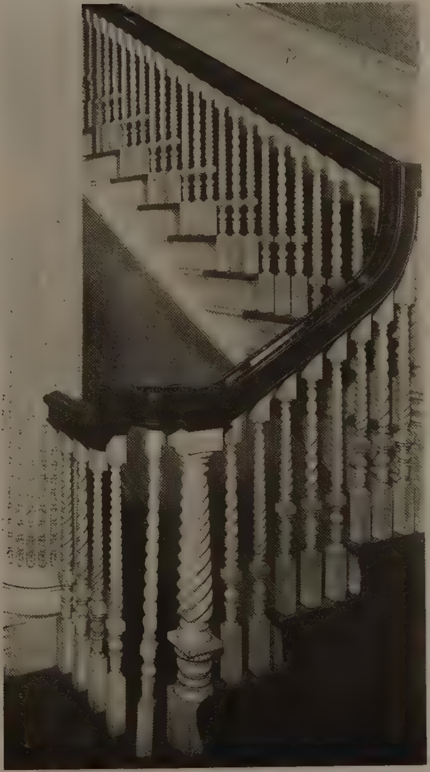

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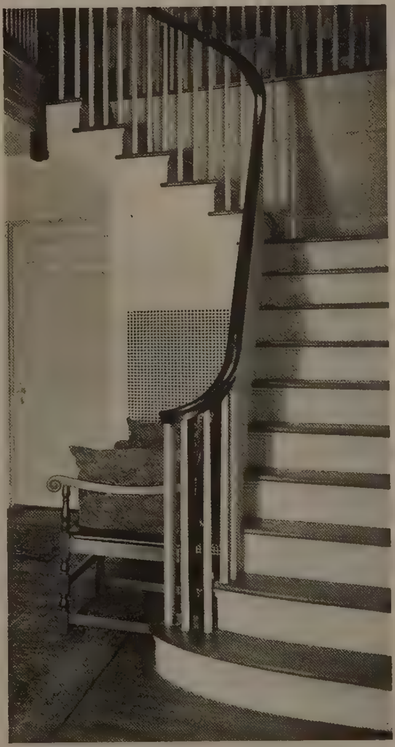
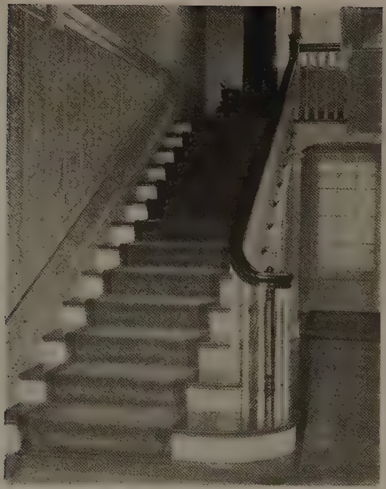
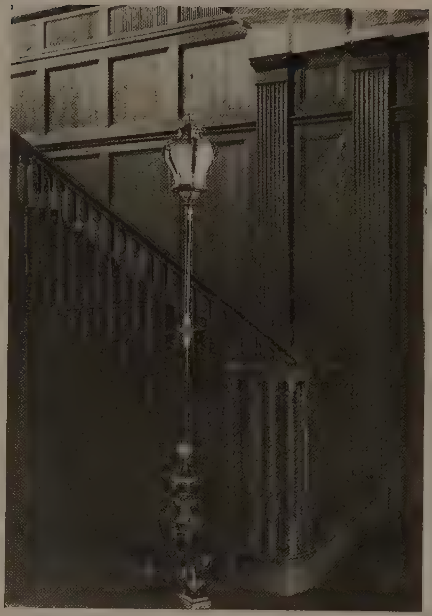


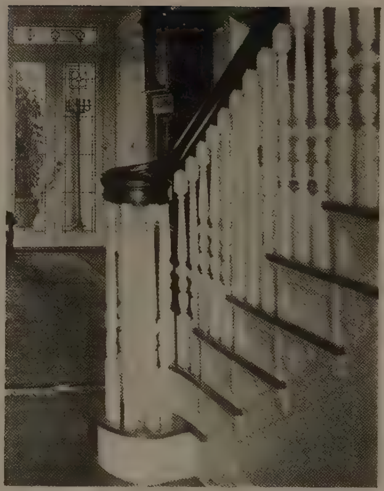
CROSS & CROSS



REPRODUCTION, HANCOCK HOUSE, BOSTON
M. H. WESTHOFF



AYMAR EMBURY, II



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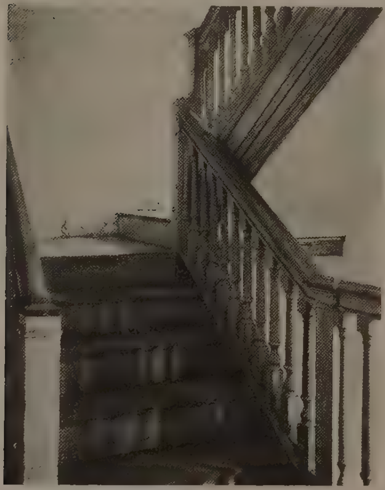

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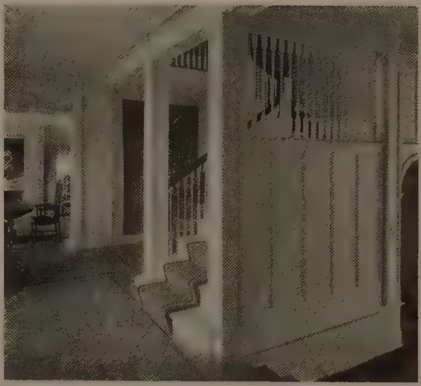

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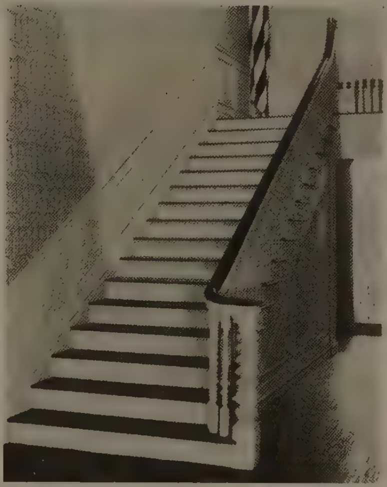

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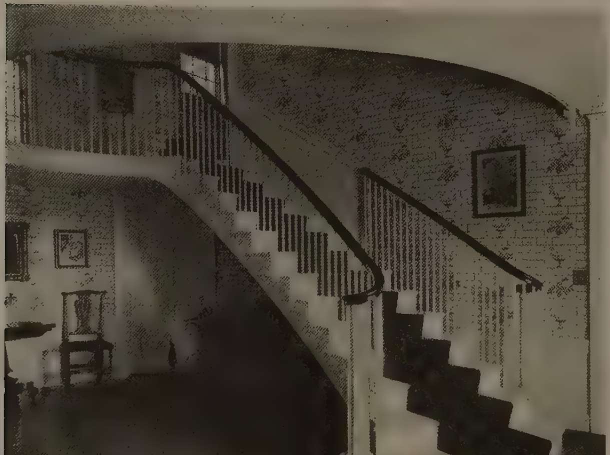

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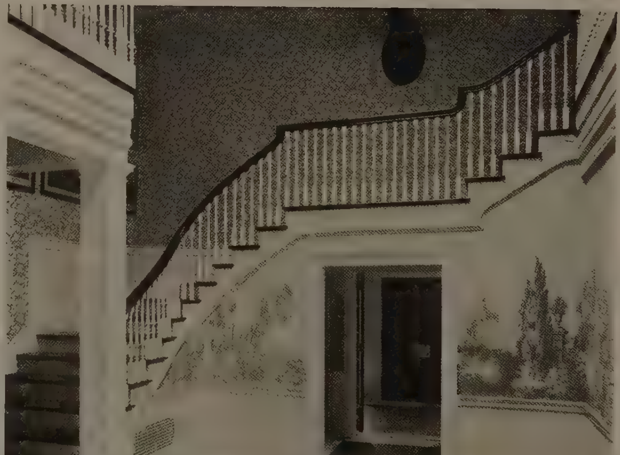


ROGERS & ZOGBAUM

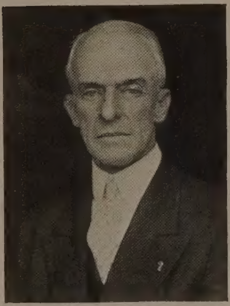
CONTACTS

DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES

Specifications from the Manufacturer's View-point

By Scott Button and C. F. Scott

of the General Electric Company



Scott Button

C. F. Scott

THERE is no basic reason why the manufacturer should not have the same point of view on the subject of building-equipment specifications as the architect who prepares them. However, the belief exists in some quarters that a difference of view-point on this subject is naturally to be expected. This belief must be incorrect because, if both parties approach the problem of equipping the building from a reasonable view-point, which must necessarily be predicated upon science and engineering rather than upon personal prejudice, the resultant will be a concurrence of opinion, and not a difference.

These remarks are written from the view-point of a manufacturer of electrical machinery or equipment, and apply to the specification of such equipment for buildings that are to be constructed under the direction and supervision of the architect and his consulting engineers. Furthermore, they express the writers' individual opinions and conclusions. Differences of opinion on some of the conclusions will doubtless be found to exist among manufacturers as a class and to some extent within the writers' own company.

Machinery and equipment specifications require perhaps a treatment differing slightly from specifications for basic materials in that the former are more readily susceptible to specification by performance as differentiated from specification by composition. Perhaps performance specifications may be made applicable to all classes of materials as well as machinery equipment, but this subject is one beyond the scope of the writers' experience.

Specifications should be carefully tested to determine whether requirements as to construction or proportions are essential to secure the factors of reliability, continuity of service, economical operation, etc., or whether such requirements serve merely to satisfy the whims of the architect, or the desire of the architect to oblige some friendly salesman or manufacturer's representative whose particular product has gained favor in the architect's sight.

It is generally conceded that the manufacturer of a satisfactory product is entitled to a reward for his efforts; not only his efforts in the design and production of the successful device, but also his efforts in assisting the architect or engineer in the solution of any particular problem requiring such a device. This assistance is warranted more especially where the device represents some specialty to which the manufacturer can give a degree of individual study beyond the range of the problems which confront the architect, or consulting engineer, who has the building as a whole to consider.

Many examples might be cited of the distinction between a specification based on the really important factors of performance and a specification calling for some particular composition or proportion which the acid test of science shows will not actually best accomplish the desired results. Take, as one example, the case of low-voltage switchboards for the distribution centre in a commercial building. The writers have seen specifications in which special emphasis is laid upon the *method* of constructing a joint between two copper parts. Now this is not important. The responsible manufacturer of the switchboard, if his product as a whole is to be admitted at all, must provide joints between copper parts which will keep the heating below the point of oxidation and will keep the voltage drop to the lowest practicable point. When these two factors are specified, the exact detail in the method of the construction of the joint is of secondary importance.

In the same way, undue stress has sometimes been laid on the temperature rise of bare copper parts of the switchboard. The really essential thing is that the voltage and power loss should be kept down to a minimum; that the contacts and busses be properly spaced to prevent the forming of heat pockets; that the temperature of the joints shall be well below the points of oxidation. Reliable manufacturers have standards with regard to these constructions which are the result of long experience and careful study. Notwithstanding these facts, specifications have been written in which temperature rises have been set at so low a limit and copper sections at so liberal a value that the cost to the building owner has been materially increased while the difference in energy consumption, due to the slightly lower voltage drop, was almost impossible to detect.

Instances may be cited, on the other hand, where the manufacturer's view-point should properly be altered to fit that of the architect or consulting engineer.

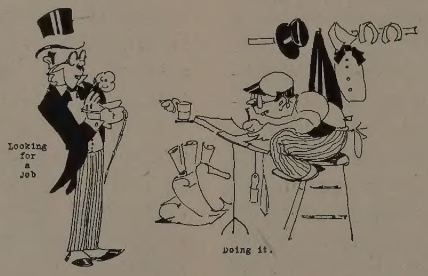
Where distinct advantages will really be accomplished, the manufacturers should recognize and support the consulting engineer's view-point, even though the manufacturer's so-called standard equipment might not seem to be applicable. On the other hand, the engineer should not call for experimental, special, or unusual construction which is unnecessary from the standpoint of the function to be performed and the necessities of continuity of service.

On the whole, with the operation of electrical equipment, satisfactory performance has been secured. In commercial buildings, to be sure, troubles have from time to time been experienced, due both to improper applications by the architect and to the manufacturer's inadequate knowledge of the requirements, and sometimes to actual weaknesses in the design and construction of the apparatus used.

The preparation of specifications which will insure that the building operator will be free from such troubles is a matter of considerable responsibility, and the architect or consulting engineer must address himself to the problem of securing for his clients the highest quality of service. It is felt that in many instances the experience of architects or consulting engineers sometimes leads them, with the best motives, to introduce into their specifications details of construction, intended to correct certain troubles with which they have had experience in the past, but which are not the most economical means of accomplishing such improvement. The correction of such troubles, however, like the curing of a disease, rests largely in correct diagnosis.

The electrical manufacturers of the country have, as a result of many years of study and conference, adopted standards of performance genuinely intended to protect the user of equipment and to insure the maintenance of a degree of quality on which the user can rely. These standards are embodied in the standardization rules of the American Institute of Electrical Engineers and in the standards of the National Electrical Manufacturers' Association. The architect and his engineer can do no better than in general to specify these standards.

In many cases, to be sure, in the building industry special requirements necessitate performance specifications beyond the broad general standards above mentioned. In such cases the reliable manufacturer will be found ready to study the problem with the architect or consulting engineer and to co-operate in its solution.



As the architect sees himself—from a drawing by R. B. Wills

In the matter of machinery and equipment, the architect or consulting engineer frequently feels that he has no alternative other than to specify a particular make of article which he has found by experience meets the requirements and renders to his clients satisfactory service. If that article is actually the only one that will meet the requirements of the case it is the writers' opinion that the architect is justified in specifying that particular article without the addition of the words "or equal." This is perhaps a dangerous doctrine. It certainly is one point upon which much has been said and written.

On the other hand, if the architect has overlooked the fact that some other reputable manufacturers are producing, or are in a position to produce, an equally efficient article that will fulfil the essential requirements, he may be reasonably assured that those manufacturers will take exception to such specifications, and by vigorously supporting their cause possibly put the architect to some trouble to convince his client of the justice of his specifications.

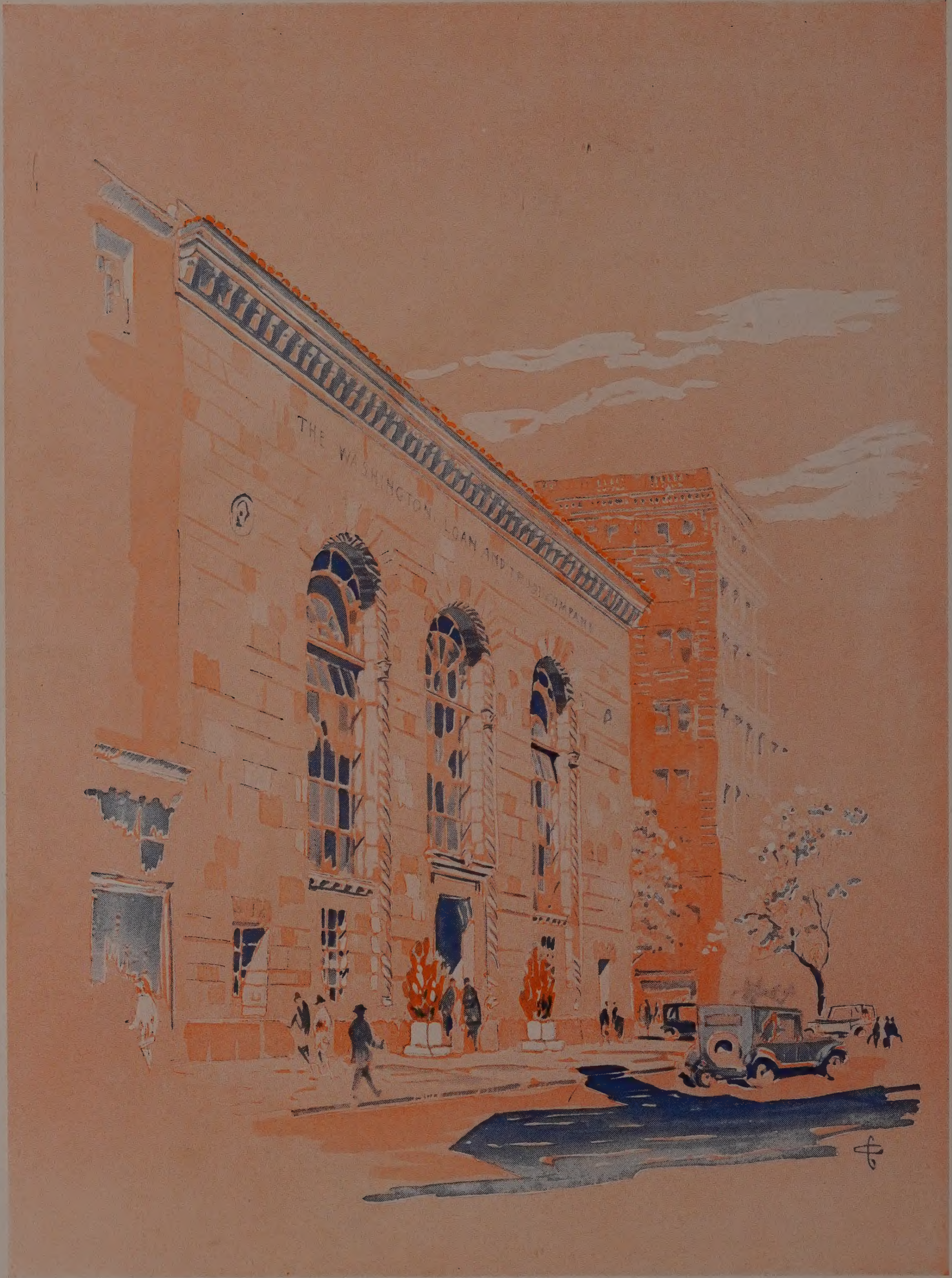
Such a contingency can be avoided only by a thorough consideration of the claims of such rival manufacturers before the writing of the specifications. In other words, the competition would be conducted on a basis of relative merits and for the architect's approval before the specifications are written, rather than on a basis of price for the contractor's order after the specifications are written.

The architect is frequently subjected to tremendous and burdensome pressure to alter his specifications where a particular make is specified. However, it is well known that in some classes of machinery and equipment some certain article fills in better than any other, and there may be no way of writing specifications which will assuredly secure the desired results as effectively as will a proprietary specification. The number of instances where the owner has been forced to pay an unfair or excessive price as a result of such specifications are probably extremely rare.

Objections to proprietary specifications come largely from those who are not so fortunate as to be specified and from subcontractors who find that such specifications prevent their "scalping" a profit by the means of questionable methods of price competition.

A manufacturer who takes a genuine pride in his accomplishments can have no serious objection to such specifications, always provided that there is in each case a fair and honest basis for the specification. Perhaps such a basis will exist in only a few instances. The architect or consulting engineer, by reason of his professional position, owes a greater public duty than does the purely private industrial purchaser, to be eminently fair and reasonable in issuing proprietary specifications, and should at all times be prepared to justify his course.

For by far the great majority of cases, a well-drawn performance specification, rather than one of composition or details of design, is the natural basis for satisfaction to the owner and progress in the art.


THE WASHINGTON LOAN AND TRUST COMPANY

The Washington Loan and Trust Co., Washington, D. C. Sketch by Gerald K. Geerlings

ARTHUR B. HEATON, ARCHITECT

[Architecture *Frontispiece*]